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Relation Of Socio-Economic Status On General Intelligence

Johnnie Lee Gaston

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RELATION OF SOCIO-ECONOMIC STATUS ON GENERAL INTELLIGENCE

by

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Chairman of Committee on Graduate Study

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DEDICATION

This study is dedicated to the Social Science Research classes in the Department of Sociology at Prairie View University.

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J.L.G.

BIOGRAPHY

Johnnie Lee Gaston is the daughter of Mr. and Mrs. Johnnie Elbert Gaston. She was born September 12, 1916, in Houston, Texas.

She graduated from Jack Yates High School in 1933. She received a B. S. degree from Prairie View College in 1937.

She has taught in the public school system of Texas for seven years. Five years of this service was in Devers Elementary School, Devers, Texas; two years in Lamarque High School, Lamarque, Texas.

She is now a candidate for a Master's degree.

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CHAPTER I

INTRODUCTION

A generation ago it was customary to regard the development of intelligence as one of the cardinal aims of education. It was taken for granted that education served not only to train the individual to perform specific acts or to see to it that he acquired certain items of information, but also to increase his intellectual power so as to make him a better thinker. By so doing it would train the mind of the individual to become a more effective tool for the performance of any intellectual task to which he might turn his attention.

Not many years ago a prominent psychologist declared that the chief function of education is the selection rather than the development of mental ability. The high school and college graduate, he said, is superior to the person whose educational career has been cut off at an earlier point, not because educational institutions have made him superior but because they have acted as a sieve, sorting out those of weaker intellect and eliminating them in the earlier grades, and retaining those of higher native capacity until they have reached a higher grade level.[1] According to this reversal of the traditional aim education does not improve intelligence. In other words intelligence is something a person is born with and education merely serves to give skill and information. This thesis is the result of an attempt to study the relations of the home environment to the general intelligence of the individual. Technically,

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[1] Frank N. Freeman, "The Effect of Environment on Intelligence", School and Society, Vol. XXXI, p. 629.

it is a study of the relationship between socio-economic status and general intelligence.

This investigation was made at Prairie View University, Prairie View, Texas. The investigator, being a student on this campus, had access to available information on the socio-economic status and general intelligence of the students of the 1945-46 Freshman class. These students were selected because it was thought, that such information will form a basis for the development of the cultural resource education of the University students. It will also offer a good opportunity for the selection of literature for the benefit of their cultural development. This material may be used as a basis for similar studies. For it has been frequently maintained that there is some relationship between environmental status and intelligence.

THEORETICAL STATEMENTS AND RESEARCHES OF OTHER SCHOLARS

It is obvious that there are differences existing between homes. These differences play an important role in the development of the habits, ideals, and intelligence of the child.

A large part of early testing was based upon the assumption that native general intelligence could be measured accurately by the tests, but tests cannot measure intelligence entirely apart from environmental influences. For in our culture there are direct indications of the part which the social environment may play in determining intelligence test results.

The present study fits into the scheme of research that has already

been developed by early theorists. This scheme includes (1) the development of the measurement of intelligence, (2) the development of general intelligence measured by single indices of socio-economic status and (3) the development of studies pertaining to the relationship of "general intelligence" and "socio-economic status" of many variables. The examples of these theoretical statements and studies will be summarized in relation to the present problem. These summaries will be so arranged that the frontier of research dealing with such problems will be shown. By doing this, the writer plans to show where previous research left off and the present research begins.

Theoretical Statements of Other Scholars: When scientific leaders began to conceive of intelligence as a category they thought of it as being given to individuals in varying degrees, and this variation was due to individual heredity. Being swayed by Darwin's evidence of the theory of evolution, early psychologists sought to trace the evolution of the mind; but we are largely indebted to Sir Francis Galton for the first statement regarding the evidence of human nature and nurture before 1900.[1] Galton not only contributed to the knowledge of the subject but introduced valuable statistical procedures which were to be widely used by his successors.[2] In fact Galton's most important contribution to the problem of intelligence and its measurement came not in the

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[1] Stuart G. Noble, A History of American Education, New York: Farrar & Rhinehart Inc., 1938, p. 388.

[2] Thomas Russell Garth, Race Psychology, New York: McGraw-Hill Book Company, Inc., 1931, p. 68.

nature of an objective tool but rather as a subjective concept -- that is, that one's intelligence is dependent upon one's inheritance, or upon biological factors.

There are two schools of thought among psychologists in regards to the nature of intelligence. One school holds that it is based upon unitary general ability. The first view was advocated by Thorndike[1] in America. He believed that individuals differ not in the kind or amount of any general mental energy but in the number of physiological connections in the central nervous system.[2] Therefore, the highest intellect differs from the lowest only in the capacity for having more of these connections. The second was given by Spearman[3] in England, who maintained on the basis of mathematical evidence that in the measurement of any ability there are two independent factors, one the "general factor", and the other the "special factor" which varied within the individual from one ability to another.[4]

Here is evidence that two early psychologists interpreted intelligence from two different points of view. Although each one probably thought that his was the only factor from which intelligence could be measured. Later Kelly and more recently Garett and Brigham and others have accumulated statistical evidence of a "multiple factor" theory of

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[1]Charles E. Skinner, Readings in Psychology, New York: Farrar & Rhinehart, Inc., 1935, p. 115.

[2]Ibid., p. 115.

[3]Harry N. Rivlin and Others, Encyclopedia of Modern Education, New York: F. Hubner and Company, Inc., 1943.

[4]W. F. Dearborn, Intelligence Tests, New York: Houghton Mifflin Company, 1928, p. 97.

intelligence. A number of more or less general or group factors, such as linguistic ability, mechanical ability and memory are thought to make their contribution to intelligence.

Thurstone maintains that intelligence is the capacity to live a trial and error existence with alternatives that are as yet only incomplete conduct. The degree of intelligence is measured by the incompleteness of the alternatives which participate in the trial and error life of the actor.[1]

Intelligence as defined by Kimball Young had two different meanings: (1) "of active mind, concerning, acute" and (2) "showing knowledge or understanding". The first of these meanings corresponds with "bright" and "dull"; that quality of brightness or dullness that results in relative success or lack of success in such activities as those which the pupils undertake in school. A pupil is not generally described as intelligent unless he is generally bright. It is usually implied that intelligence is the quality of brightness that belongs to the individual as a result of his native endowment. It is inherited characteristics that make him superior in intellectual accomplishment to the average person.

The second definition puts the emphasis on what the person can accomplish at the present moment regardless of the source of his ability. The person who has many things is the one who is superior in his present accomplishment.[2]

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[1] L. L. Thurstone, The Nature of Intelligence, New York: Harcourt Brace & Company, 1927, p. 156.

[2] Kimball Young, An Introductory Sociology, New York: American Book Company, 1934, pp. 89-108.

Researches of Other Scholars: The first formal approach in the development and the use of mental tests was probably made by Oehrn[1] in Germany in 1889. This was her doctor's dissertation and was worked out under the supervision of the noted German psychiatrist, Kraepelin. Her tests were built upon a time factor in two ways, first from the standpoint of time per unit of work, and second, the amount of work done per unit of time. The tests were grouped under four main heads: (1) a study of perceptual processes: (2) memory; (3) the association processes; (4) motor functions. Under the first of these she used tests of counting lower cases, Latin type letters. She also used tests of searching for particular letters mainly for the purpose of judging adequacy.

In the second part she admits the influence of Ebbinghaus in preparing for memorization nonsense syllables and rows of figures of twelve digits. In the third she used only the addition of rows of figures ranging from one to nine, inclusive. In the fourth group she used two tests, reading a passage of German, and writing from dictation as rapidly as possible. Two things stand out in Oehrn's work. In the first place, her tests were bulky and long and resultingly of very little practical value. In the second place, her controls were lax so that one cannot determine either the reliability or the validity of her measures.

It is generally assumed that the first individual to use the expression "mental tests" was the American psychologist Cattell[2] in his

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[1] Paul L. Boynton, Intelligence, New York: D. Appleton & Co., 1933, p. 151.

[2] Charles E. Skinner, Readings in Psychology, New York: Farrar & Rhinehart Inc., 1935, pp. 5, 6.

1890 article in Mind. One of the most interesting features of this study is the analysis which he made of the problem of psychological measurement. In fact, the presentday psychologist is faced with these same problems, which were the attaining of certainty and exactness in psychological experimentation, the testing of adequate numbers, the constancy, interdependence and variation of mental processes, the application of psychological measurement for the individual, the need of standardization, and the effect of time and locality on psychological measurements.

Cattell suggests the following tests: dynamometer pressure, rate of movement, sensation areas (two discrimination) pressure causing pain, least noticeable difference in weight, auditory reaction time, time for naming colors, bisection of fifty centimeter lines, judgment of ten seconds of time, and the number of letters remembered on once hearing. Today such a test would seem wholly inadequate because of its concentration in the lower mental processes and purely motor activity.[1]

In 1894 Gilbert[2] published from the Yale Psychological Laboratory a series of eleven tests which he had used on New Haven school children. These tests were: muscle sense, sensitiveness to color differences, force of suggestion, voluntary motor ability, fatigue, weight, height, lung capacity, reaction time, discrimination time, and time memory. He considered all of these except weight, height, and lung capacity to be tests of mental processes. After taking his data from the test, he has the

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[1]Paul L. Boynton, Intelligence, New York: D. Appleton Company, 1933, p. 152.

[2]Ibid., p. 152.

teacher to divide his children into three groups as he considered them to be bright, average or dull in intelligence. A fairly typical sample of the study may be seen in the author's discussion of the results of the reaction-time test.

The bright children reacted much more quickly than did the dull ones. Not so much difference is noticeable between those who were considered bright by the teacher and those who were judged of average ability. It is shown here that we judge children's mental ability by quickness or rapidity with which they are able to act. Another fact is that all children are considered of about equal mental ability, or in other words, all grades of children react in about the same length of time just before those ages in which changes of growth manifest themselves.

In four of the twelve ages tested Gilbert found consistent differences between his bright, average and dull groups in reaction time. Not only that, but in only three of the twelve ages was there gross mean difference. From data of this type the only conclusion which one could possibly draw is that there is no significant relationship between the results from the reaction-time tests, and the so-called intelligence of the student as used by Gilbert.

Though there had been various psychological devices for measurement of the quality, the one devised by the French psychologist, Alfred Binet (called the Binet-Simon Scale) for the measurement of intelligence is the most practical and has the most widespread use of any for the individual intelligence tests. Terman[1], one of the early authorities in

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[1] Otto Klineberg, Race Differences, New York: Harper and Brothers Publishers, 1935, p. 152.

this field, expressed the opinion that the Binet scale was a true test of the native intelligence, relatively free of the disturbing influences of nurture and background.

In recent years, however, more work has been done on the tests themselves, and little by little the conviction has grown that Terman's statement was an exaggeration, and that environmental factors cannot be ignored in any valid interpretation of test results.[1] There may still be some controversy as to the extent to which these factors enter, but material has been accumulated which leaves no doubt that they play an important part. It is a known fact that people living in almost the same environmental conditions will still differ widely from one another in intelligence.

Single Indices of Environmental Differences: Recent theories regard occupation as being the best singular index of an environmental variable. In 1913 Taussig[2] proposed a classification of five non-competing occupational groups. Day laborers who must have plenty of physical strength but need very little or no education were the lowest group. The semi-skilled worker was placed in the second group; the skilled worker who had a small amount of education as well as brawn was the third group. His fourth group included the office managers, clerical and semi-professional workers. Business men were placed in the fifth or highest group. In actual practice the learned professions have definite educa-

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[1] Ibid., p. 152.

[2] Alice M. Leahy, The Measurement of Urban Home Environment, Minneapolis; University of Minnesota Press, 1936, p. 2.

tional requirements.

Many students testify to the close correspondence between standing in the tests and the social and economic status of the groups tested. This was revealed in the study made by the Army testers, and it has been verified by investigators in England, France, Germany, and Japan as well as in the United States.[1] The studies of Goodenough[2], Collins[3], Freeman[4] and others gave the results that there are marked differences not only between adults, but also between their children, the professional and moneyed classes ranking higher than skilled and unskilled laborers.

The difficulty in the interpretation of the findings is in answering the questions: What is the cause and what is the effect? Whether people are in the upper economic levels because they are more intelligent, or whether they do better on the test because of their superior opportunities?

The writer feels that intelligence may be regarded as the cause of economic status only if opportunities are equal and competition is entirely free. Until we can be certain that the same opportunities have been given to all, any direct comparison of average test scores will be

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[1] Klineberg, op. cit., p. 162.

[2] F. L. Goodenough, "The Relation of Intelligence of Pre-School Children to the Occupation of their Fathers", American Journal of Psychology, Vol. XL, 1928, pp. 284-294.

[3] J. E. Collins, "The Intelligence of School Children and their Occupation", Journal of Educational Research, XVII, 1928, pp. 157-169.

[4] F. N. Freeman, "The Influence of Environment on Intelligence, School Achievement and Conduct of Foster Children and their Occupation", Twenty-Seventh Year Book, National Society Study On Education, Part I, 1928, pp. 13-17.

meaningless.

A more direct analysis of the influence of social and economic level upon intelligence has been made in important recent studies of foster children who were placed in more favorable environments. Freeman, Holzinger and Mitchell[1] found that children in good foster homes made gains of 5.3 points in their intelligence quotient after a period of four years. When a comparison was made between siblings in better and poorer homes, the former had an I. Q. about nine points higher. The writer believes that these results show the influence of the improved environment; but it is possible that the more intelligent children were adopted into the more intelligent homes.

Herman G. Canady[2] in a study of 441 Freshmen at West Virginia State College who were required to take the "American Council Psychological Examination" and "Sims Scale for Socio-Economic Status, Form C," used the former to establish an intelligence score and the occupation of the fathers was secured from the latter. The method of classifying occupations was the one suggested by Sims. He found that the occupational distribution of the fathers showed general agreement with that of the workers of the state; the group conformed to the general picture as revealed by other studies among other students in assigning high average intelligence scores to the professional and commercial group, and in showing that skilled labor and unskilled labor groups fall at or near the bottom

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[1]Charles E. Skinner, Readings In Psychology, New York: Farrar & Rhinehart Inc., 1935, pp. 209-210.

[2]Herman G. Canady, "The Intelligence of Negro College Students and Parents' Occupation", American Journal of Sociology, Vol. XLII, 1936, pp. 388-9.

of the scale; there was a perfect correspondence between parental occupation and intelligence of the child.

His data revealed an overlapping between groups. In comparing 30.6 per cent of the professional group with 56.7 per cent of the unskilled he found the intelligence score to be less than 80 per cent while 36.7 per cent of the professional group and 10.6 per cent of the unskilled fell in the higher quintile in intelligence scores. In other words, individuals whose mental rating was in varying degrees above or below what might be expected of the child's mentality and the parents' occupational level were quite congruous. More than three-fourths of the total number of students that fell in the highest quintile in intelligence scores came from occupational levels below the professional level and from parents who presumably are not in general intelligence.[1]

Certainly these data indicate that the poor boy may make good and that the rich boy, despite the utmost favorable environment, may fail miserably.

The telephone was used by Kornhauser[2] to differentiate homes in his study of economic status in relation to intelligence of school children. The choice of the telephone was arbitrary and, like other single indices, permitted very wide differences in respect to other factors. The educational, cultural, and social interests of a family were not revealed by the possession of a telephone.

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[1] Ibid., p. 289.

[2] Vermer Martin Sims, The Measure of Socio-Economic Status, Bloomington, Ill.: Public School Publishing Company, 1928, p. 3.

Multiple Factor Classification of Environment: In 1908 Commons offered the first scheme demanding a consideration of more than a single factor in the classification of homes. His Score Card covered such features as the location of the homes, congestion, lighting, structural condition, house appurtenances, number of occupants, sleeping arrangements and cleanliness. Although the plan was entirely empirical and without statistical validation, it is a forerunner of our modern scales.[1]

Perry published in 1919 the concept of an environmental continuum for the objective features of home conditions. His Manner of Living Index, is significant in that it is our first scale for measuring environment. He assumes that the four basic processes undertaken in households are the preparation of food, eating, sleeping, and receiving friends; further that these processes are carried on through the progressive acquisition of a kitchen, a bedroom, a dining room. He weighs household equipment in direct relation to the progression. His method aimed at a clear delineation of the different analyses made, and the scale has been little used.[2]

The next investigator to include several objective factors in the measurement of home difference was Holley[3]. He recognized the relationship between home conditions and persistence in school. He used what is perhaps the first quantitative group measure of group home background. This measure is called a "family index" and it is made by combining the three factors, average education of parents, number of books in the home,

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[1]Alice M. Leathy, The Measurement of Urban Home Environment, Minneapolis: The University of Minnesota Press, 1936, p. 4.

[2]Ibid., p. 4.

[3]Sims, op. cit., p. 4.

and monthly rental. He describes the method used to combine the items as follows:

The 25 percentile deviation from the median was found for each of the three items, average education of the parents, number of books in the home, and monthly rental. These figures, which were approximately two years, 62½ volumes, and $7.50, respectively, were then divided by five to give more convenient divisions. Each of these divisors, 0.4 year, 12½ volumes, and $1.50 was given a value of one unit. The number of times the respective divisors were contained in the quantities which represented the average education of the parents, the number of books in the home and the monthly rental of a family gave the number of units credited to each of these items. The figure representing the units given a family for an item was secured and the sum of the squares for the three items gave the family index. This can be made clear by a concrete example. A family whose parents have an average education of eight years, which has one hundred books in the home, and pays $15.00 a month rent will serve as an illustration of the method. Dividing eight years by the educational divisor, 0.4 years gives twenty units, which is 400 when squared. Similarly one hundred books when divided by the library divisor, 12½ volumes, gives eight units which equals sixty-four when squared. The rental index $15.00 divided by the rental divisor, $1.50, gives 10 units, which when squared furnishes 100 more. The sum of 400, 64, and 100, or 564, is the index of the family. He judged this procedure to be purely arbitrary, but he thought that the resulting indices were quantitatively representative of the differences in the opportunities presented to the

children by their respective homes.

Ruth Strang[1] found in her study of 311 graduate students who were majoring in the field of Deans and Advisors at Teachers College in testing the relationship of social intelligence and economic background that the correlation between these factors was less than .14. Being born in a rural community or having foreign-born grandparents or having parents engaged in occupations rated relatively low on the Barr Scale; or working one's way through school does not bear any significant relationship to the scores made on the intelligence test. Upon measuring twelve students having a combination of these factors, rural birthplace, three or more grandparents foreign-born and father's occupation low, there was no significant difference.

Summary of Previous Studies: Those who have reviewed the literature of the field, I think, will agree that the earlier extreme views of specific training are no longer held by any of the leaders in the field. There are still differences in emphasis, but all will agree that there is clear evidence of transfer of training or of general intelligence.

The first evidence is drawn from studies in the transfer of training. The view that education increases the ability to perform intellectual tasks other than those in which the individual is trained was challenged on the bases of laboratory experiments together with investigations of learning. These experiments and investigations led to the doctrine that all learning is highly specific.

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[1] Ruth Strang, "Relation of Social Intelligence to Certain Other Factors", School and Society, Vol. XXXII, pp. 268-272.

The second source of the belief is that education is found in the biological notion of heredity. The common interpretation is that since physical and mental traits are inherited those traits which are exhibited by mature individuals are determined by the traits exhibited by his ancestors. The development of the individual is the unfolding of these traits which are found in the organism before birth.

This does not mean that the adult individual is what he is because of his inherited potentialities. His characteristics may be the joint effect of his inherited potentialities and of the influences which are brought to bear upon him by his environment.

The third source of the view that intelligence is fixed by heredity and is unaltered by education is found in the interpretation of the intelligence tests. This view was not entertained by Binet, who devised the first usable intelligence scale. It cannot be demonstrated from the ordinary tabulation of intelligence test scores themselves. The differences which appear between the scores of individuals or groups of individuals are regularly susceptible to dual interpretation. The fact that one interpretation is regularly chosen to the exclusion of the other is a clear evidence of the bias existing in the mind of the person making the interpretation.

Again it is well known that the children of superior parents have a higher intelligence than children of inferior parents. It is also known that the homes of these superior parents are of a higher group and offer better advantages than do homes of inferior parents. The superiority of children may, in such cases, be attributed either to the superior heritage or the superior home advantages. Other instances of group

contrast are the differences in intelligence scores of the persons in different occupations, of dwellers in the city and in the country, and in the immigrants who live in the United States for different periods of time. In all the comparisons which have been cited, the difference may be due to inheritance or environment or to the combination of the two. The statistical relationships are not of such nature as to enable us to determine which of the three are correct.

DEFINITION OF PROBLEM

The past twenty-five years have witnessed a marked development in the effort to obtain data that are objective and fairly reliable. This is done by standard testing. Various names have been suggested for this type of test, but not one of them is entirely satisfactory. The most common names are Intelligence Tests, General Intelligence Tests, and Mental Tests. The difficulty is that all tests to some extent, are mental tests and school tests must be not only mental tests in general but tests of general intelligence as well. For this reason the investigator of this problem has chosen the term "General Intelligence". By the term general intelligence we mean that inherited capacity of the individual which is manifested through his ability to adapt to and reconstruct the factors of his environment in accordance with his fundamental needs of himself and his group.[1]

This study includes certain aspects of the home background which

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[1] Arthur Jones, Principles of Guidance, New York: McGraw-Hill Book Company, 1934, p. 140.

have been called the "Socio-economic Status" of the family. By Socio-economic status is meant the possession or non-possession of such things as the occupation of the parents, the possession of books and magazines, the physical necessities and luxuries provided in the home, and the outside contact of the parents and children.

Statement of the Problem: This research is designed to show the relationship of general intelligence to the Socio-economic Status of 224 Freshmen students of Prairie View University, Prairie View, Texas. Therefore, the investigation will be based around the answer to one basic question: What is the nature of the relationship between socio-economic status and general intelligence?

In order to answer this question conclusively it is necessary to answer the following questions:

1. What is the relationship between various occupations and the kinds of homes they make possible?
2. Does a high socio-economic status correlate with high scores on intelligence tests?
3. Is home environment when correlated the cause or effect of intelligence?

This study does not undertake to set up a device sensitive enough to measure the psychological attributes of environment. For the psychological aspects of environment are made through the measurement of human personality. If the theory that intelligence is directly related to socio-economic status is valid, an objective measure of the latter is necessary. Because it is possible to group children into homogeneous in-

tellectual groups in the schoolroom, it is frequently concluded that they have equal opportunities to learn.

Certainly the practical problems of the child's training demand that the factors constituting his environment be measured. There are many institutions in the child's environment. The most important institution is unquestionably the home, for it is the home that influences the child's conduct at all times. The techniques developed range from an evaluation of a single factor to the statistical analysis of a number of elements.

Scope and Limitations: The scope of this investigation and organization of work is limited to Freshmen entering Prairie View University for the year 1945-46. These students are representative graduates from high schools of several states, namely: Texas, Illinois, Arizona, California, and Oklahoma.

Method of Investigation: Since a measure of environment is used in the connection with research concerning children and with social service involving the placement of children, it is important to include all those aspects of the home and community life that may bear directly or indirectly on the behavior and intelligence of the child. To secure a representative list of students from the Freshman class a random sample was drawn.

In the collection of data two tests were used. One entitled the "American Home Scale" which was designed to obtain valid and reliable measurements of the Socio-economic Status of the individual; the other, "Psychological Examination", was designed to record the intelligence of the individual.

The data were secured by the writer and other assistants. The administrative procedure was kept uniform; typed directions were followed. Each question was considered separately, and no student answered until he had received the instructions for the particular question. Many questions were asked by the students in regards to the directions. Whenever a new question was asked by a student, it was noted and the same reply was made if it was asked again. It was insisted that every pupil answer every question. After all the questions had been covered time was allowed the student to look over his answers and make corrections or answer any question that had been omitted. Questions twenty-seven, twenty-eight, forty-eight, and forty-nine of the "American Home Scale" were given special consideration by the investigator because the correct information was necessary for securing accurate scoring of the test. In case these questions were omitted or the wrong procedure was followed in answering the questions, the blanks were returned to the students who were asked to complete them.

In this manner 300 blanks were filled out by the Orientation classes in Education with the permission of the head of the Department, Mr. J. H. Windom.

The only two legitimate reasons for not answering were (1) the lack of necessary information and (2) unwillingness to furnish the information. Carelessness in filling out the questionnaire accounted for all other omissions; consequently, 76 of these blanks were discarded and the remaining 224 cases were used.

Practically all the questions fell into two general groups, those answered "yes" and those answered "no". Some questions were allowed a

varying amount of possession, for example, books. The answer "yes" were those items possessed in the home, and "no" were the non-possessed items of the home.

A stencil was provided for scoring each of the four patterns by hand. This stencil was in the form of a scoring folder so cut that the test sheet could be slipped in and lined up for scoring. Keys for the Cultural and Miscellaneous scores appeared on the front of the stencil, and the aesthetic score was on the back.

The scores for the Economic, Aesthetic and Miscellaneous scale were computed by totaling the number of correct responses. The score for the Cultural scale was the number of correct responses which appeared on the front page of the test plus the total score on the Magazine section divided by the number of magazines marked.

The Psychological Examination was conducted in the same manner. However, the writer secured the desired information from the Department head.

"The American Home Scale" showed a total score and sub-scores on one general and three specific aspects of environmental background which may be defined as follows:

1. Cultural environment includes the contact an individual has with books, magazines, and other literature, contacts with other people and groups, and education.
2. Aesthetic environment includes natural surroundings such as trees, flowers, and birds, as well as various forms of art and artistic expression.
3. Economic environment includes all factors that contribute to

material welfare--basically, shelter, food, and clothing, all of which determine to some extent an individual's capacity to benefit from his total environment.

The general or miscellaneous factor contains items which are independent of the other factors but which, nevertheless, contribute to the total score of overall Socio-economic Status.

In the Psychological Examination the questions fall into two types consisting of six tests:

1. Quantitative Tests (the Q-score) which represents the ability to think in quantitative terms.
   a. Arithmetical Reasoning
   b. Number Series
   c. Figure Analogies
2. Linguistic Tests (the L-score) which depend upon linguistic ability.

The purpose of this test is to appraise what has been called general intelligence. However, these two sub-scores do not represent primary mental abilities, but they represent two groups of abilities significant for college curricula that are technical.

Significance of Study: A study of this nature may be useful in that it contributes to the body of information already in existence. It represents a pioneer study in the field of literature dealing with Socio-economic Status of Negroes in Texas. So far as the writer has been able to ascertain, no other study of this nature has been conducted in this University nor of Negro college students in Texas. The personnel department of this University may be benefited by this investigation.

It is possible that further research may develop out of this study or such a study may be instituted in other states.

CHAPTER II

ANALYSIS AND INTERPRETATION OF DATA

In the study general intelligence has been defined as the inherited capacity of the individual which is manifested through his ability to adopt and reconstruct the factors of his environment in accordance with his fundamental needs of himself and his group. It is assumed that the environmental influences of an individual are factors that relate to his intelligence. A superior environment denotes superior intellectual ability.

SOCIO-ECONOMIC STATUS REFLECTED BY QUALITY OF HOME

The main purpose of this chapter is to describe the socio-economic status of the homes of the students studied. Therefore, this chapter will show a per cent distribution of these qualities as they relate to the total number. In order to realize this purpose the description of these qualities will include the following:

1. Classification of educational and occupational level of parents.
2. Material elements of home.
3. Parents' participation in community organizations.
4. Presence of reading material in home.
5. Size of home and number of household.

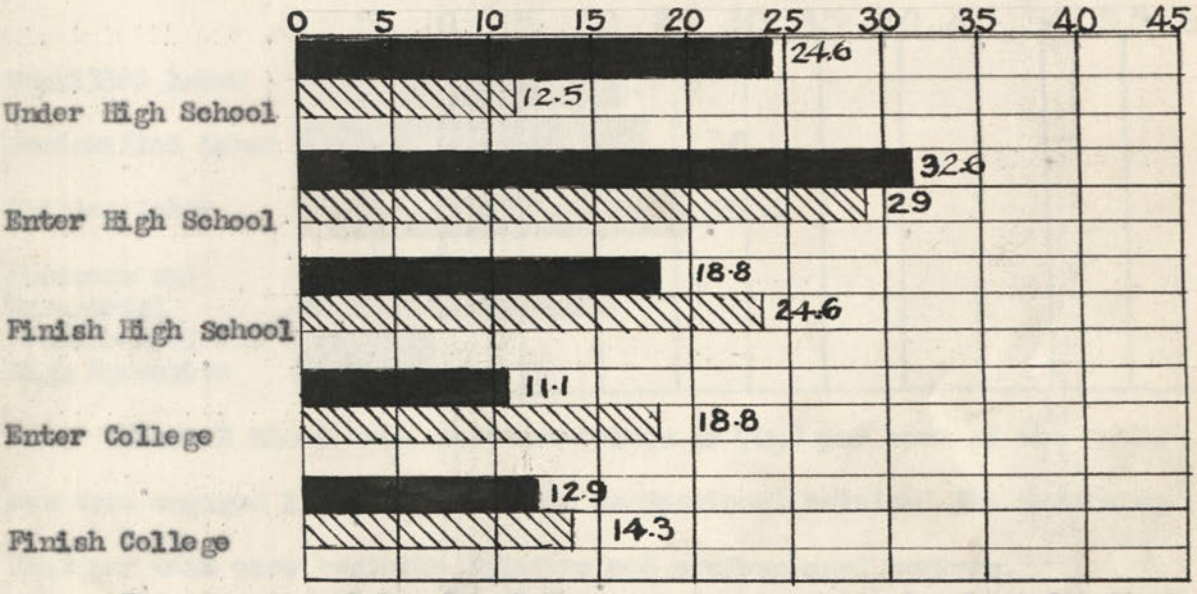
Home Quality as Expressed By Educational & Occupational Class of Parents: One of the approaches which can be made in the analysis of this problem is to consider the occupational and educational level of the parents of the students in this study. It is possible to reason that when one has extreme social ability this can be handed down from one genera-

tion to another. But just because the parents have social characteristics that are similar in nature it does not necessarily mean that the parents transmit such characteristics to their children through the germinal process.

CHART 1

PER CENT DISTRIBUTION OF THE EDUCATIONAL LEVEL OF PARENTS OF 224 FRESHMEN STUDENTS

Educational Level



The educational levels of the parents are shown in Chart 1. Most of the parents represented were of high school level. However, the Chart reveals a constant decrease in the number of parents attending school as the educational status increases. The per cent of fathers attending school is higher in the lower educational bracket but the women are higher in the upper level.

Another quality to be considered was the economic status of the family. The occupational level on the "American Home Scale" was divided into five types: professional, business managers, skilled, semi-skilled,

and unskilled. The occupational classification in this study was taken from the Brewer and Strong[1] occupational and classification list. Other classifications were taken from the writers' own interpretation of the students' parental occupations listed on the questionnaire.

CHART 2

PER CENT DISTRIBUTION OF THE OCCUPATIONAL CLASSIFICATION OF THE FATHERS OF 224 FRESHMEN STUDENTS

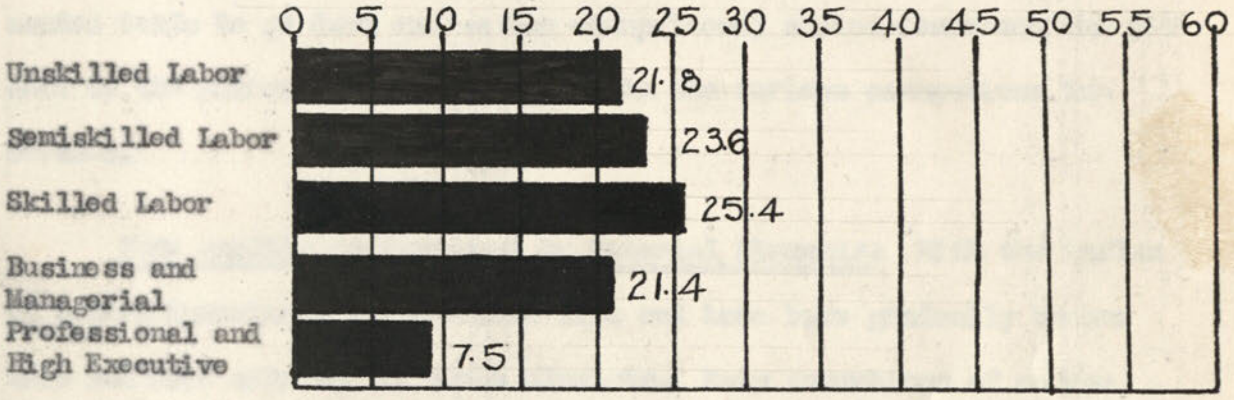


Chart 2 shows that over two-thirds or 70.8 per cent of the fathers were engaged in the first three occupational levels. The remaining 28.9 per cent were business managers and professional workers.

There is further consideration to be noted in that children from homes of the economically superior probably have a greater opportunity to form habits which cause them to be judged to be intellectually superior than children from homes which are not so economically favored. It has been proven by previous studies made by Freeman, Collins and Goodenough[2]

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[1] E. K. Strong, John Brewer, Occupational Bulletin, Harvard University, 1944.

[2] Goodenough, op. cit., p. 10.

that the children of superior parents have a higher intelligence than children of inferior parents. It is also known that the homes of these superior parents are of a higher grade and offer better advantages than do homes of inferior parents. The superiority of children may in such case be attributed either to superior heredity or to superior home advantages.

The writer's conclusion on this point is as shown in Charts 1 and 2. As the educational level goes up the per cent of the parents represented tends to go down and as the occupational status decreases the per cent of the number of parents engaged in the various occupations increases.

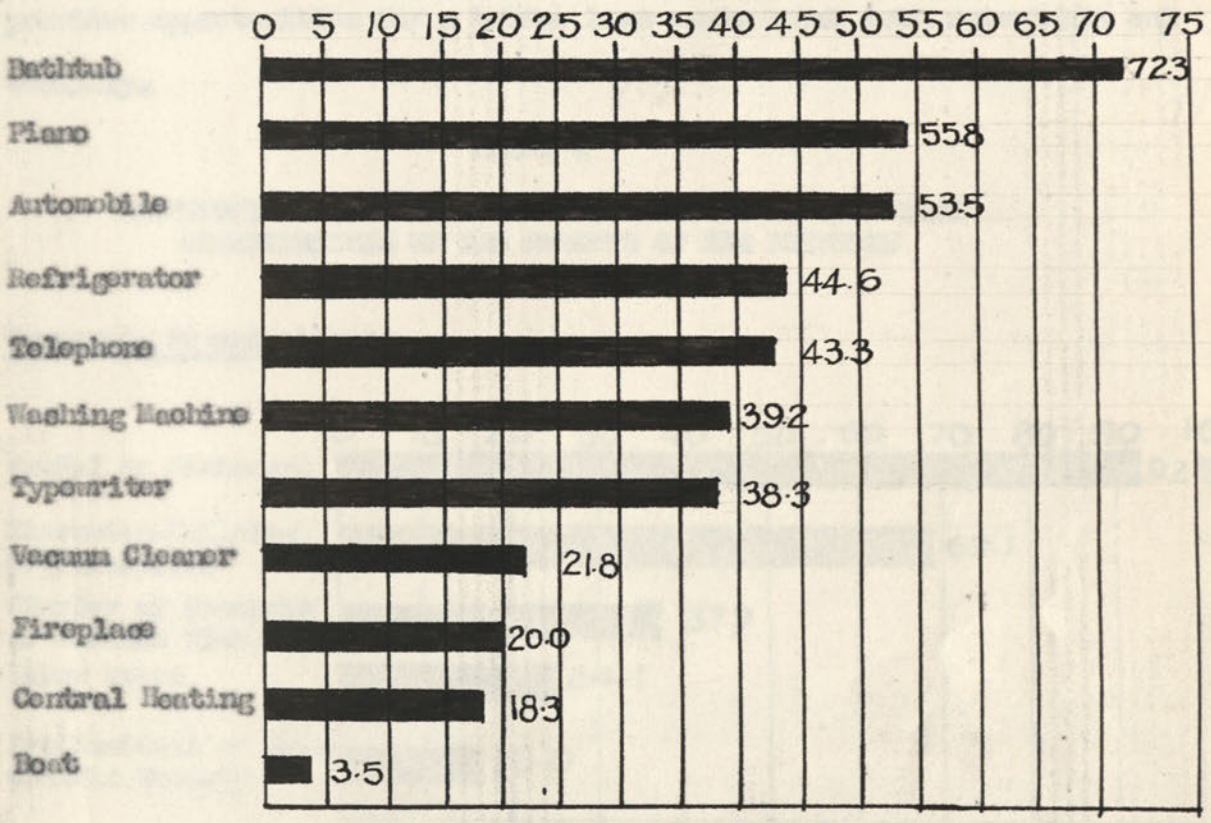
Home Quality as Expressed by Material Elements: With the influx of modern inventions the American life and home have gradually become more and more affected by these elements. Many inventions of course have caused changes in family life and the surroundings of the home. Material elements may be defined as those properties that are manufactured for the home, such as, telephones, vacuum cleaners, typewriters, pianos, electric and gas stoves, washing machines, refrigerators and bathtubs, which add to the comfort of living.

The evidence of these material elements is shown in Chart 3. Over one-half the homes possess the first four items listed on the Chart. Other household elements decrease consistently in the frequency of their presence in the home.

CHART 5

PER CENT DISTRIBUTION OF THE MATERIAL ELEMENTS OF THE HOMES OF 224 FRESHMEN STUDENTS

Material Elements



Home Quality as Expressed by Community Participation of Parents:

Community organization is a term that has recently come into common use to designate the various activities and programs of social reconstructions that are built around the community as a social and ecological unit.[1] In other words, community organizations are those activities of a body of people having a common interest, purpose, and common conditions

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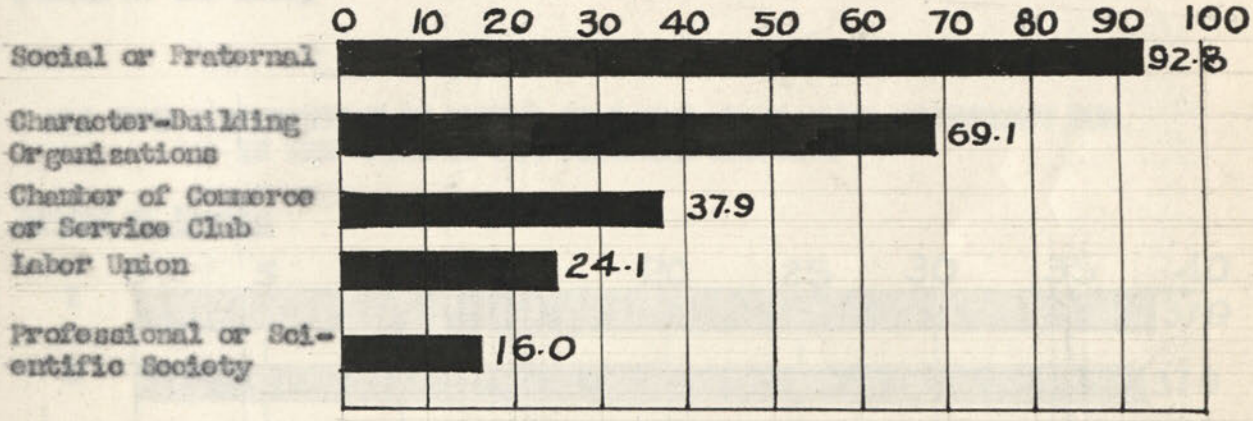
[1]Jessie F. Steiner, "Community Organization", Encyclopedia of the Social Sciences, New York: The MacMillan Company, Vol. V, 1935, pp. 105-108.

and environments. Organizations are the keynotes to community success regardless to whether they are for economic reasons, production, marketing, for purely aesthetic and cultural advancement or for social and recreational purposes. Participation in organization by individuals provides opportunities for a better home environment both materially and socially.

CHART 4

FREQUENCY DISTRIBUTION OF PARTICIPATION IN COMMUNITY ORGANIZATIONS OF THE PARENTS OF 224 FRESHMEN STUDENTS

Community Organizations

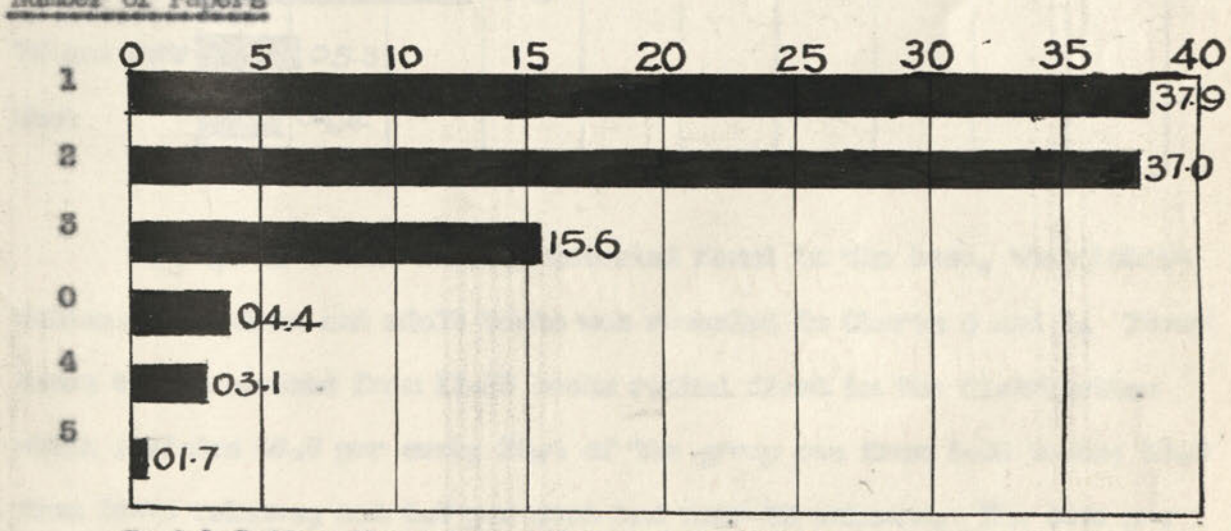


The data as revealed in Chart 4 describe the per cent distribution of the membership of parents who participated in organizations that were listed on the scale. Social and fraternal clubs rank first having 92.8 per cent. Of this group one hundred fifty-five parents were members of some form of character-building organization. Labor unions and professional or scientific societies have a relatively small number of participants. The former contained 24.1 per cent and the latter 16.0 per cent of the total distribution.

Home Quality as Expressed by the Presence of Reading Material: It is felt by some authors that the influence of newspapers, magazines, and books upon the cultural background of the individual is more important than even the discoveries of science. The "little red schoolhouse" might teach the youngster how to read and write, but it was the periodical press that provided reading matter for the great majority. "Yes sir", commented Mr. Dooley, "th' hand that rocks the fountain pen is the hand that rules the wurruld."[1] On the American Home Scale the possession of reading materials such as, books, newspapers, and magazines is an important factor in the development of the cultural aspect of of the socio-economic status of the home.

CHART 5

PER CENT DISTRIBUTION OF NUMBER OF DAILY NEWSPAPERS SUBSCRIBED FOR IN THE HOMES OF 224 FRESHMEN STUDENTS



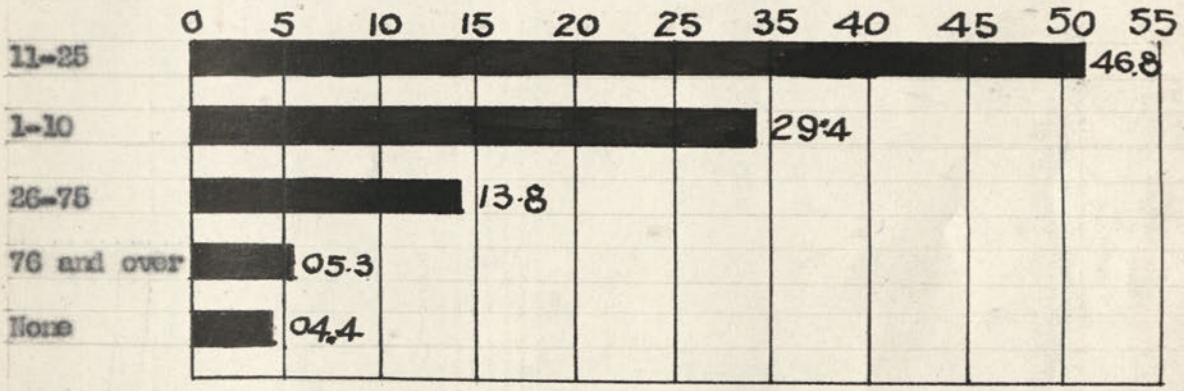
In tabulating the data on the number of daily newspapers sub-

[1] Harold U. Faulkner, "The Quest for Social Justice, New York: The MacMillan Company, p. 248.

scribed for in the homes of the group studied, the distribution is shown in Chart 5. The distribution of those families taking respectively one and two papers daily is 37.9 per cent and 37.0 per cent. A small per cent of the homes takes three newspapers per day; 3.1 four; and 1.7 per cent subscribe to five daily papers. It was also noted that 4.4 per cent of these homes did not take a daily newspaper. Therefore, 95.6 per cent of the homes represented have access to one or more daily newspapers.

CHART 6

PER CENT DISTRIBUTION OF THE NUMBER OF CHILDREN'S BOOKS IN THE HOMES OF 224 FRESHMEN STUDENTS

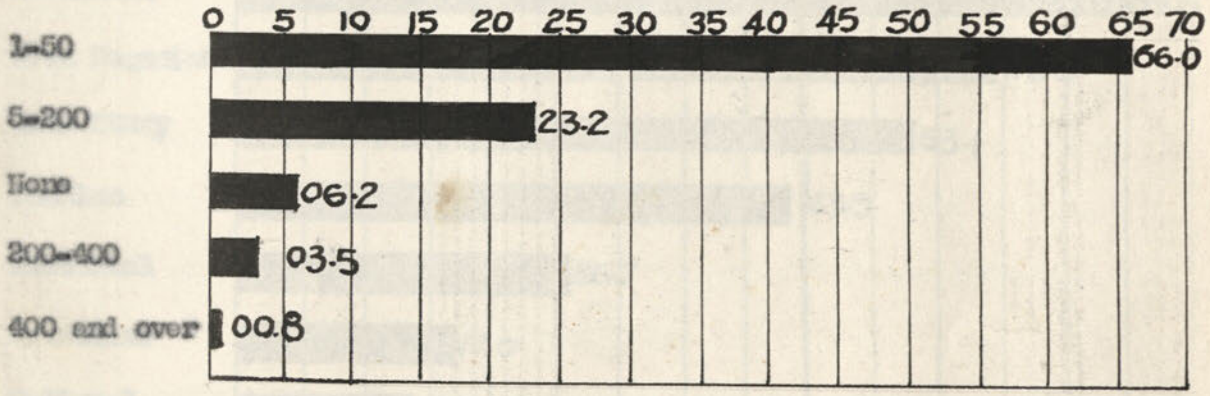


In regards to the reading material found in the home, the distribution of children and adult books was revealed in Charts 6 and 7. Those homes that possessed from 11-25 books ranked first in the distribution which includes 46.8 per cent; 29.4 of the group own from 1-10 books; 13.8 from 26-75 volumes; and 5.3 per cent had over 76 volumes. The same per cent of non-subscribers of daily newspapers was also found to be without a children's library in the home. This does not necessarily mean that the same homes that did not have any children's books in their library were

the same persons who did not subscribe for a newspaper, but the per cent distribution was the same.

CHART 7

PER CENT DISTRIBUTION OF NUMBER OF ADULT BOOKS IN THE HOMES OF 224 FRESHMEN STUDENTS

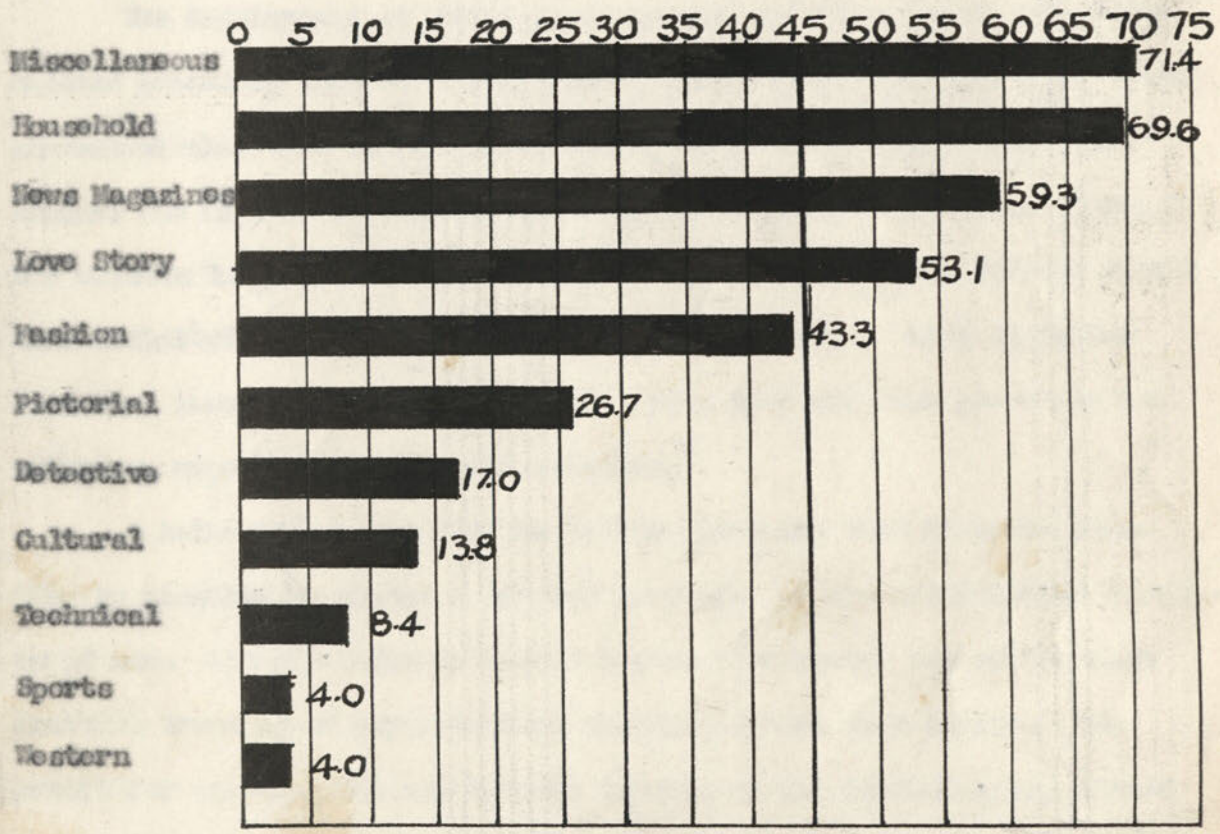


Over one-half or 66 per cent of the parents owned from 1-50 volumes of adult books. But as we descend the lines of the Chart the per cent of the number of books decreases sharply. In other words very few of these families have over two hundred books in their home.

The list of magazines that were scored on the American Home Scale classified under miscellaneous, household, news magazines and love stories. Such magazines formed over one-half of the reading material found in the home. The distribution of fashion magazines is 43.3 per cent, pictorial 26.7 per cent, detective 17.0 per cent, and technical 8.4 per cent. Sports and western magazines have equal representation in the homes studied with a per cent of 4.0.

CHART 8

PER CENT DISTRIBUTION OF THE TYPES OF MAGAZINES TAKEN IN THE HOMES OF 224 FRESHMEN STUDENTS



Home Quality as Expressed by the Size of House and Number in Household: Another phase of the home to be considered was the size of the house in proportion to the number of persons living in the home. The scatter diagram shows that the relationship of the number of persons to the number of rooms increased in proportion up to a certain point and then the scatter began to taper off. The correlation was r = .27 ± .061. This small relationship shows that there is just as many small families living in large houses as there are large families living in small houses. The number of people in a family can only increase up to

a certain point but the number of rooms may increase indefinitely.

PSYCHO-SOCIAL CHARACTERISTICS OF FRESHMEN STUDENTS

The development of man's psycho-social characteristics are accumulated processes that have been handed down through civilization. These characteristics have shaped his thinking in each generation and have trained his mind in conceptual thinking and objective analysis. Through the written language he has been able to store these techniques or habits into unlimited volumes to draw upon when he has need. Thus libraries have been increasing at a rapid rate. They grow with the growth of the sciences, especially the social sciences.[1]

A half-century ago Francis Galton predicted that it would sometime be possible to obtain a general knowledge of the intellectual capacity of man. Already Galton's mental testing has become one of the most fruitful branches of psychological sciences in the last decade. The credit for pointing the way belongs largely to the psychologist, Alfred Binet, who, after more than fifteen years of research, gave to the world in 1908 the system of mental test now known as the Binet-Simon Scale. In various revised forms the method has come into general use in public schools, institutions for defectives, prisons, reform schools and juvenile courts in the United States and Europe.[2]

We use intelligence tests in the same manner today to identify

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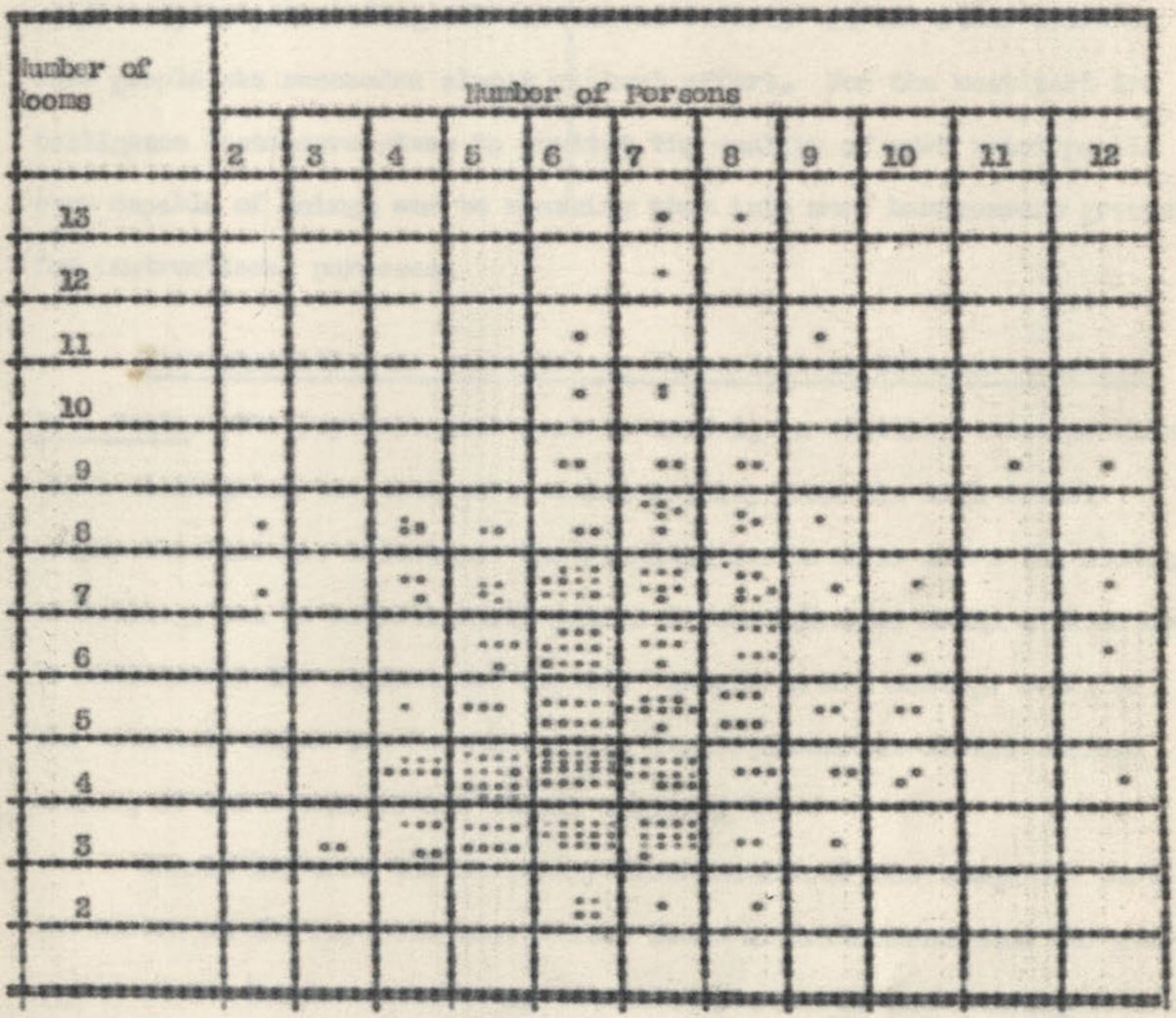
[1] Jerome Davis, Readings in Sociology, Boston: D. C. Heath & Co., pp. 533-34.

[2] Lewis M. Terman, The Intelligence of School Children, Boston: Houghton-Mifflin Company, pp. 1-2.

CHART 9

SCATTER DIAGRAM SHOWING THE RELATIONSHIP BETWEEN THE NUMBER OF PERSONS AND NUMBER OF ROOMS IN THE FAMILIES OF 224 FRESHMEN STUDENTS



children who can profit most from the work of special classes especially organized and conducted to meet their needs. However, it had not been long before leaders in the field recognized the fact that there were significant differences in intelligence among so-called normal children. At one extreme there were those children who could succeed in the work of a grade only by painstaking and continuous effort. At the other extreme were people who succeeded almost without effort. For the most part intelligence tests were given to predict the quality of work which pupils were capable of doing, and to classify them into more homogeneous groups for instructional purposes.

Characteristics As Indicated By Psychological Test and American Home Scale: The Psychological Test is useful, in handling those problems which distinguish the student's mental ability from his high school preparation and his industry. The faculty, in the case where the student is failing, can be intelligently guided if one has some means of knowing to what extent the student has applied himself to his college work, or the extent to which the Freshman meets the requirements of his college course, or the extent of his mental ability.

Charts 1-3 show the frequency distribution of the total and part raw scores on the Psychological Test. These distributions show the average scores of 224 Freshmen students. The distribution of each histogram compares with that of a normal frequency curve. It does not show how many individuals make a particular score but rather how many make scores which fall within a particular range. Class interval for the total score (Chart 1) is ten: 10 to 19, 20 to 29, etc. The class interval of the

CHART 1

FREQUENCY DISTRIBUTION OF THE TOTAL SCORES ON THE PSYCHOLOGICAL TEST OF 224 FRESHMEN STUDENTS

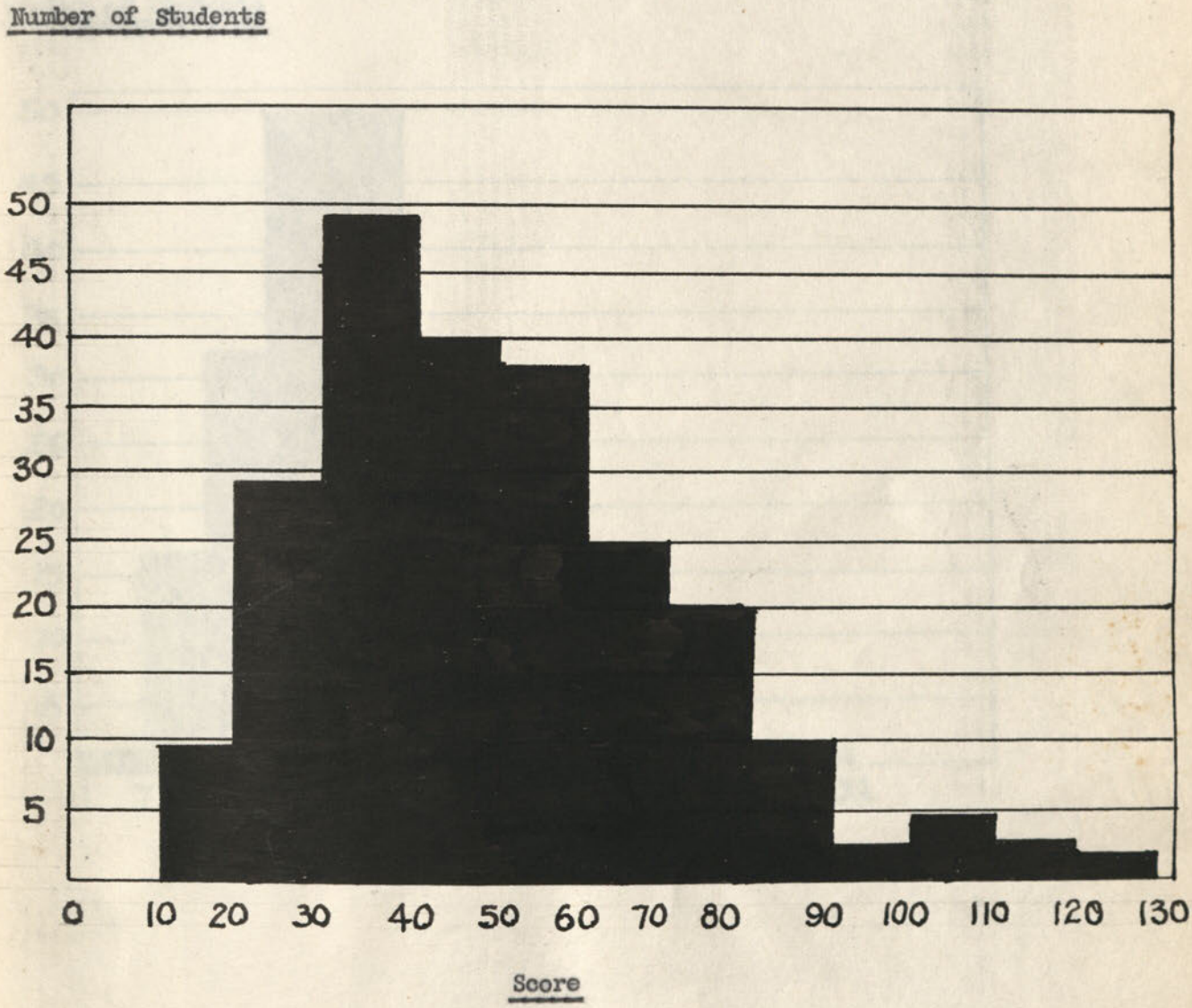


CHART 2

FREQUENCY DISTRIBUTION OF THE LINGUISTIC SCORES ON THE PSYCHOLOGICAL TEST OF 224 FRESHMEN STUDENTS

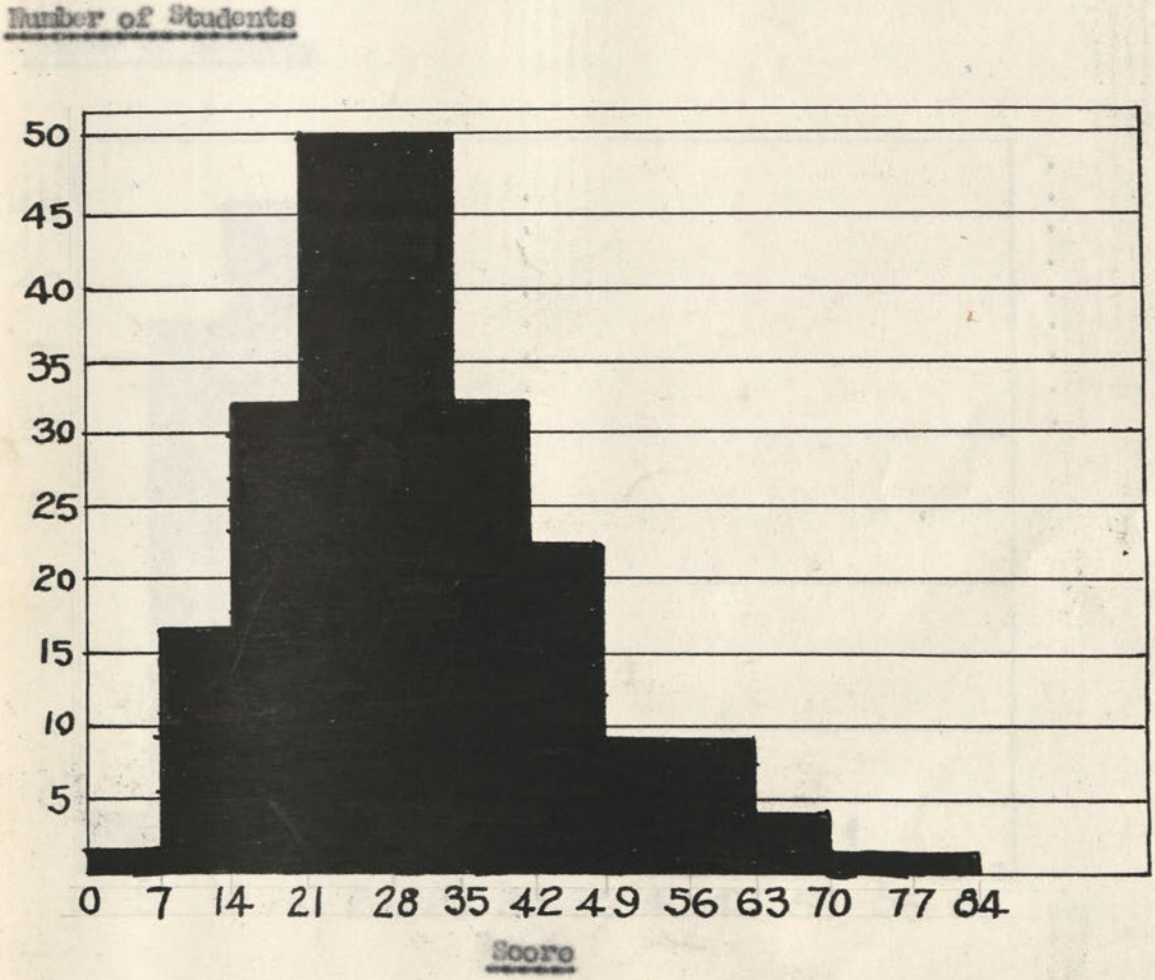
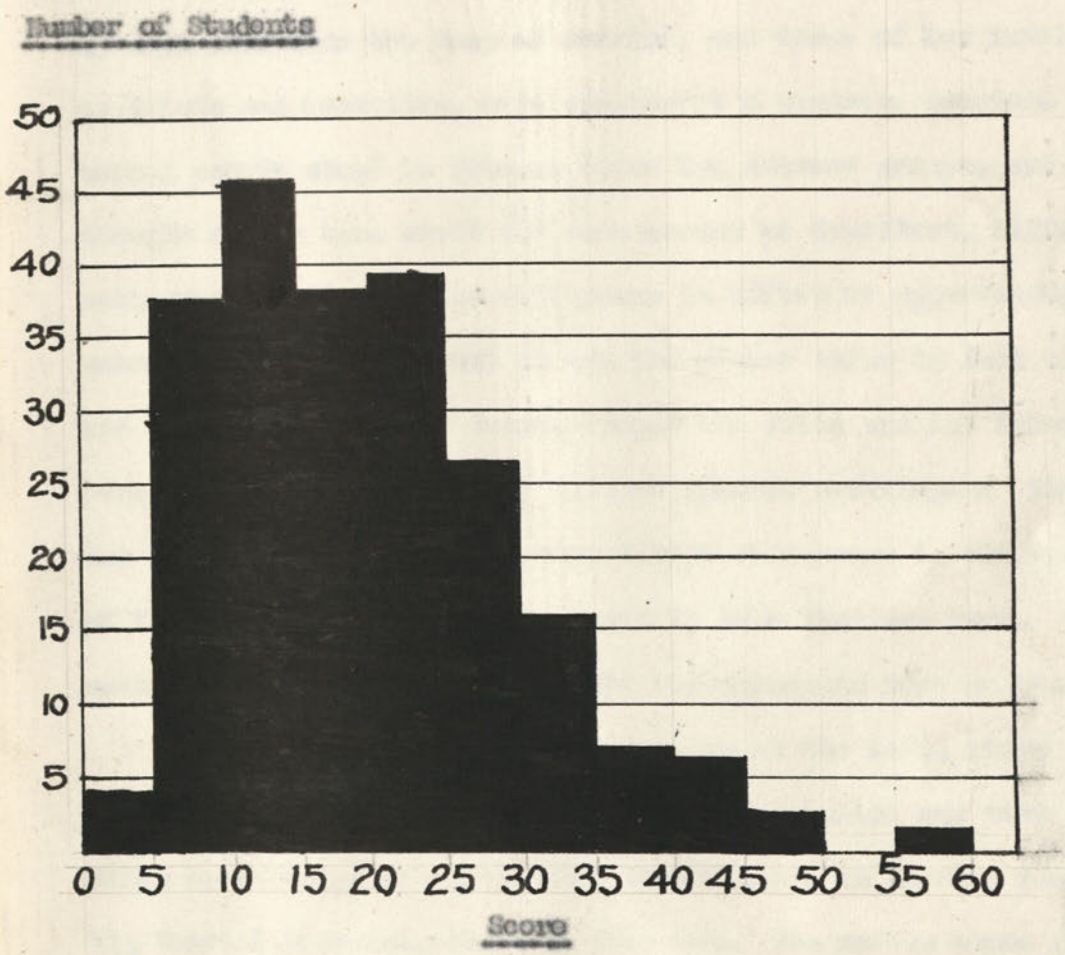


CHART 3

FREQUENCY DISTRIBUTION OF THE QUANTITATIVE SCORES
ON PSYCHOLOGICAL TEST OF 224 FRESHMEN STUDENTS



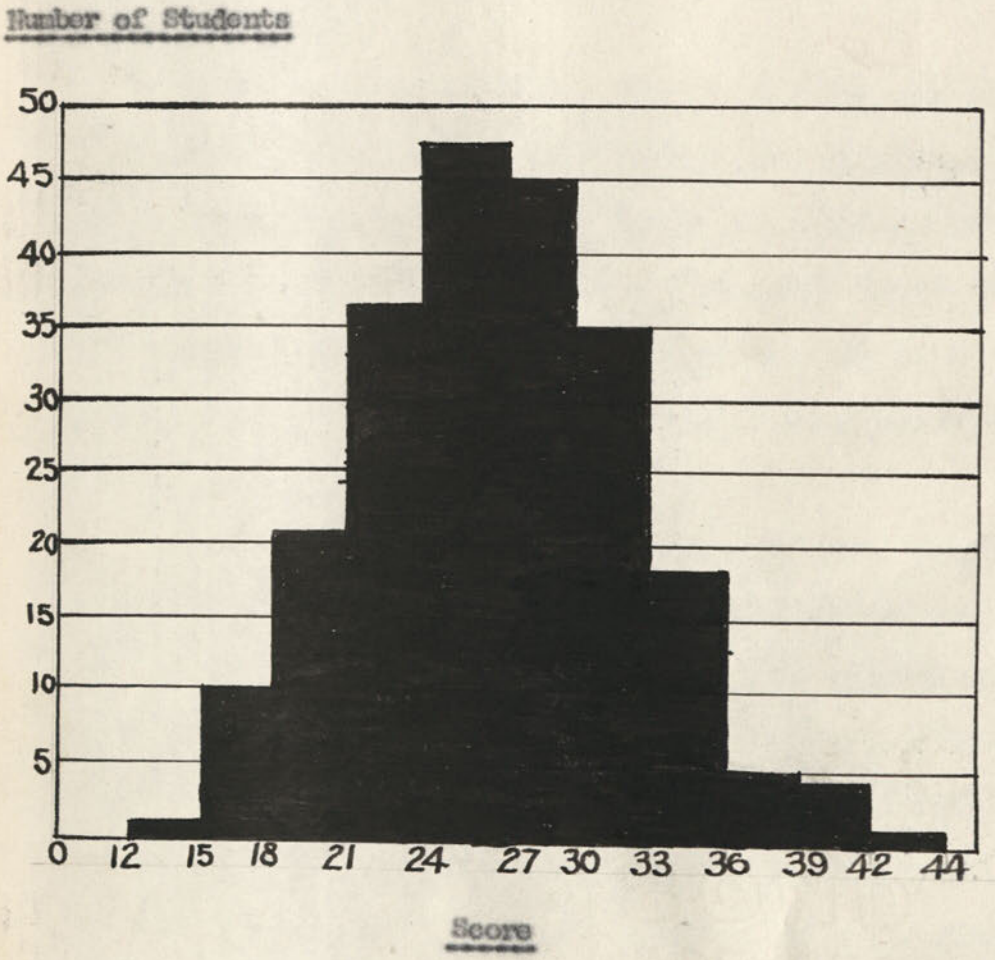
scores in Charts 3-4 is eight and five points. If the frequency of each student's score had been tabulated the scattering would have been too great to determine where the greatest frequency lies.

It is interesting to note that the scores for the brightest student and the dullest student are about equal distance from the median. For it was once thought that great intellects, such as genius, were widely separated from the mass of mankind, and those of low intellects, such as idiots and imbeciles, were considered a separate species. Average or normal people stood in between these two extreme groups, and they were thought all to have about the same amount of intellect, difference in achievements being due to difference in effort or opportunity. Hence the school master thought that it was the proper thing to fail all of those who did not learn their lesson except the idiot and the imbeciles who were excused from school and allowed special privileges. The results of the Psychological Test show very little difference in the arrangement of the score. Each histogram tends to take the same form. In Charts 2-3, note that the general shape of the histograms is more or less the same.

The frequency distribution is low at the left, rises gradually higher and higher until it reaches a certain point and then gradually sinks again to a low point. The lowest score in Chart 1 ranges from 10-19, Chart 2 from 0-6, Chart 3, from 0-4. The median score for the total score is 47, linguistic score 30, and question score 18. This means that a few people make very low scores and that as the scores increase the number of individuals making such scores increases up to a given point. The highest point on the histogram or the median represents the average or normal ability of the group, since a great number of individuals clus-

CHART 4

FREQUENCY DISTRIBUTION OF THE TOTAL SCORES ON THE AMERICAN HOME SCALE TEST OF 224 FRESHMEN STUDENTS



ter around this point. From this point on, as the scores increase, the number of students becomes less and less until it ends up with only a few making high scores.

The most thorough study of the distribution of intelligence has been made by Thorndike.[1] He presented distributions for single tests for several grade populations and then combined these single curves into composite curves.

There are numerous groups that differ from one to another in intellectual capacity due to their environment or some particular neighborhood or community in which they live. The American Home Scale was given to the same students who took the Psychological Test. Three aspects of the environment were measured in this scale. They were cultural, aesthetic, and economic. The fourth section was a miscellaneous one and added reliability to the scale.

The raw scores on the American Scale were grouped into classes and class intervals. The range between class intervals was much smaller than that of the Psychological Test. From the distribution the median was calculated. The characteristics of these distributions are seen in Charts 4-7. The total and economic scores (Charts 4-7) of the scale show a fairly equal distribution in that the lowest and highest have the same number of students. The highest point on this histogram represents the median. It can be seen at a glance that the distribution in Charts 5, 6, and 8 is skewed. The cultural score distribution conforms rather

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[1] Rudolph Pinter, Intelligence Testing, New York: Henry Holt and Company, 1927, pp. 74-75.

CHART 5

FREQUENCY DISTRIBUTION OF THE CULTURAL SCORES ON THE AMERICAN HOME SCALE TEST OF 224 FRESHMEN STUDENTS

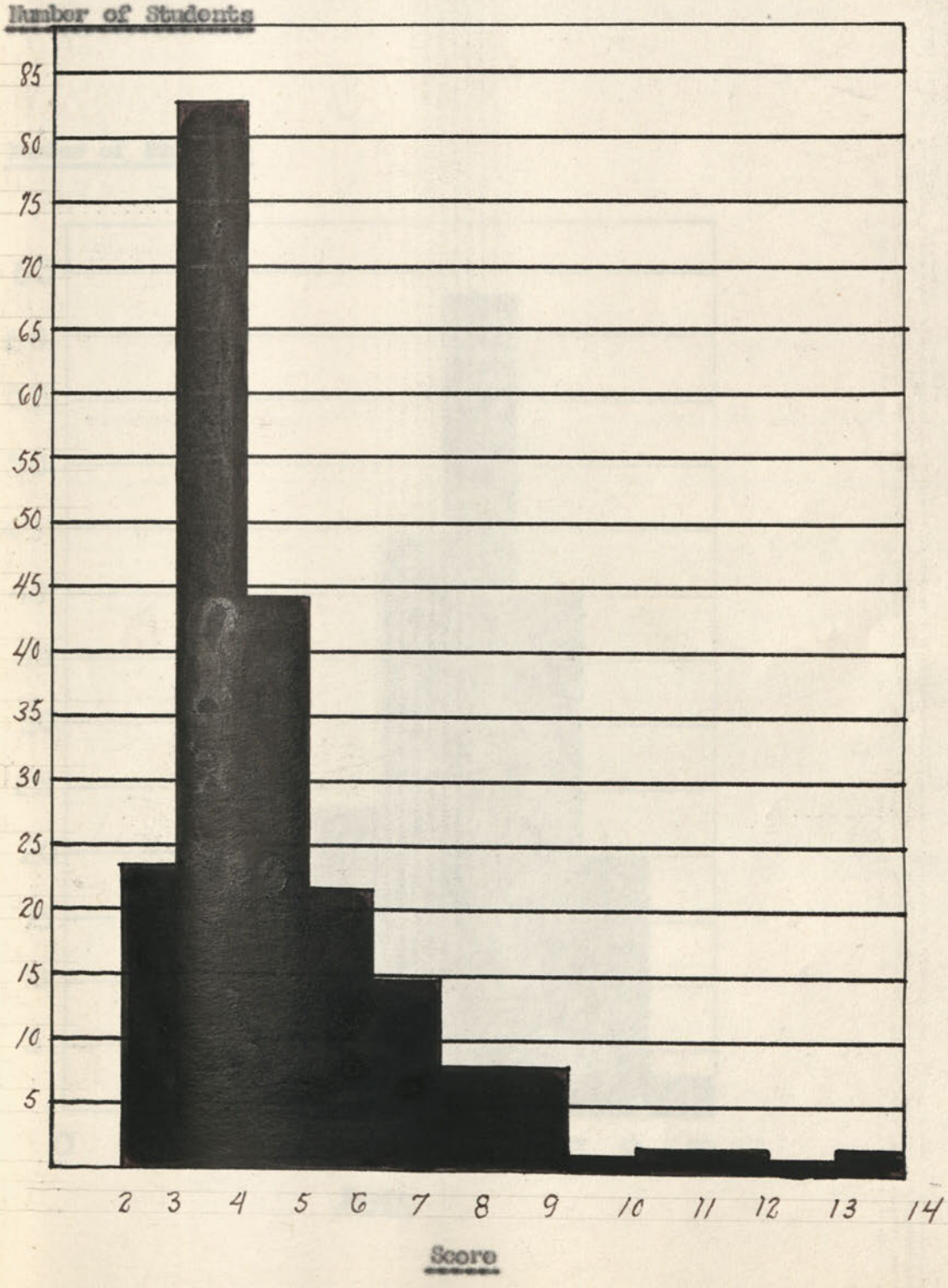


CHART 6

FREQUENCY DISTRIBUTION OF THE AESTHETIC SCORES ON THE AMERICAN HOME SCALE TEST OF 224 FRESHMEN STUDENTS

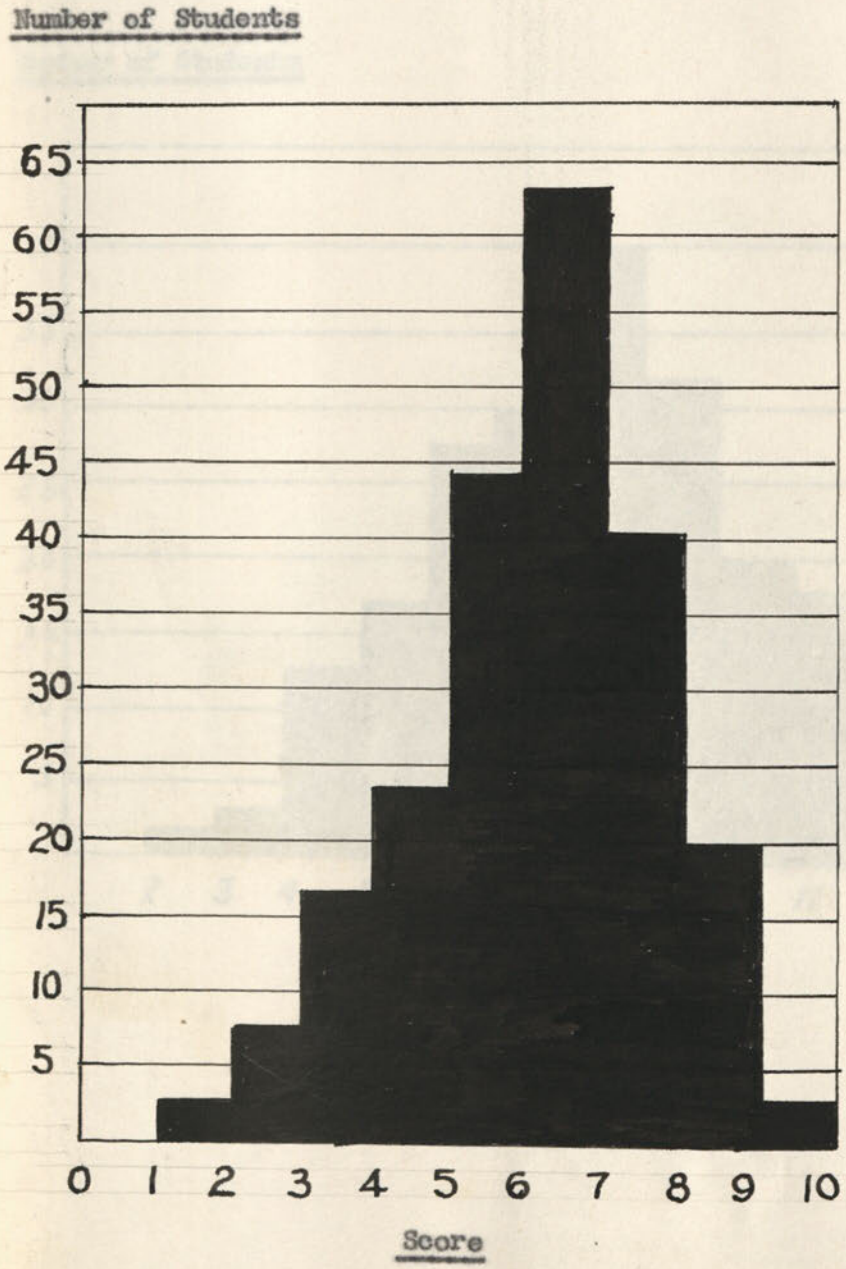


CHART 7

FREQUENCY DISTRIBUTION OF THE ECONOMIC SCORES ON THE AMERICAN HOME SCALE TEST OF 224 FRESHMEN STUDENTS

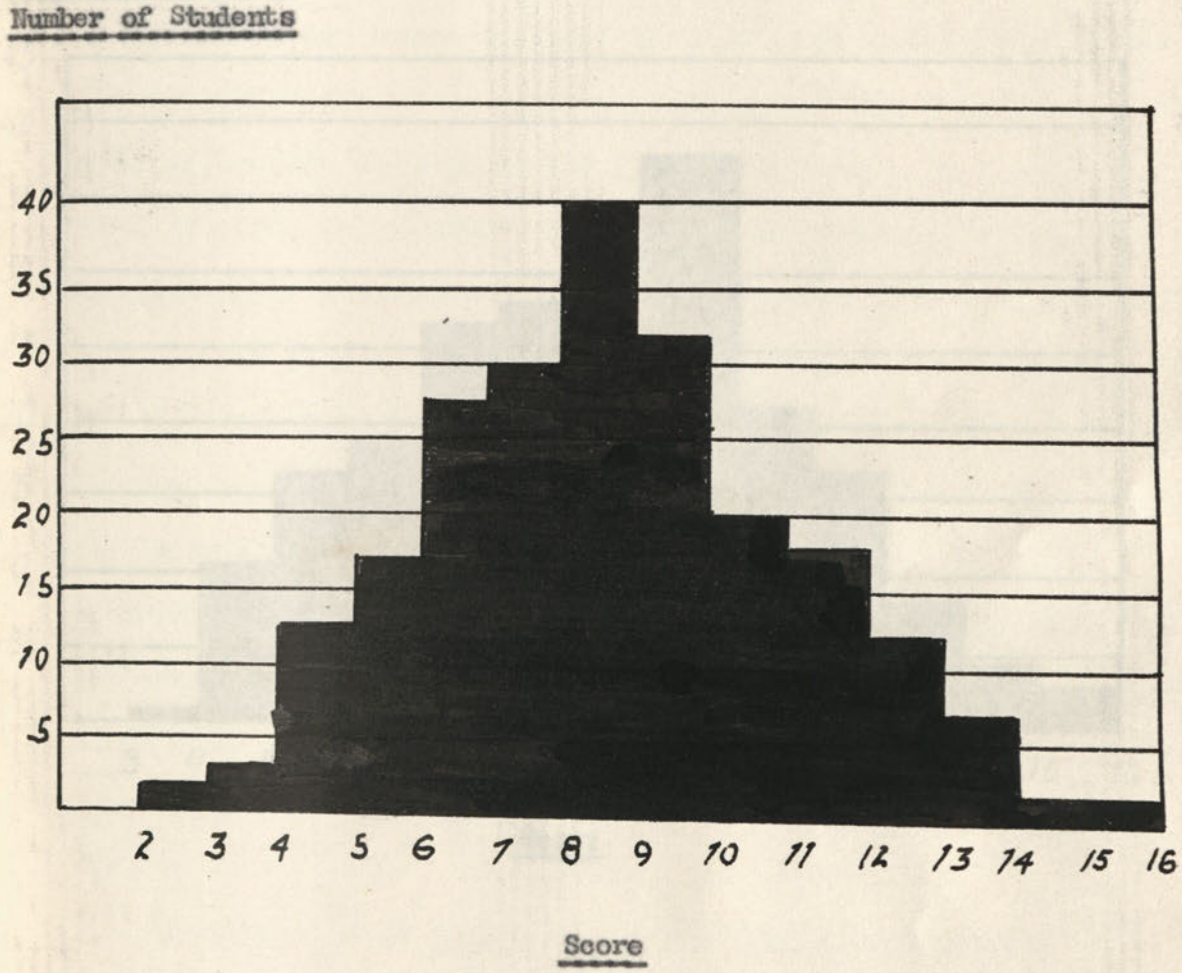
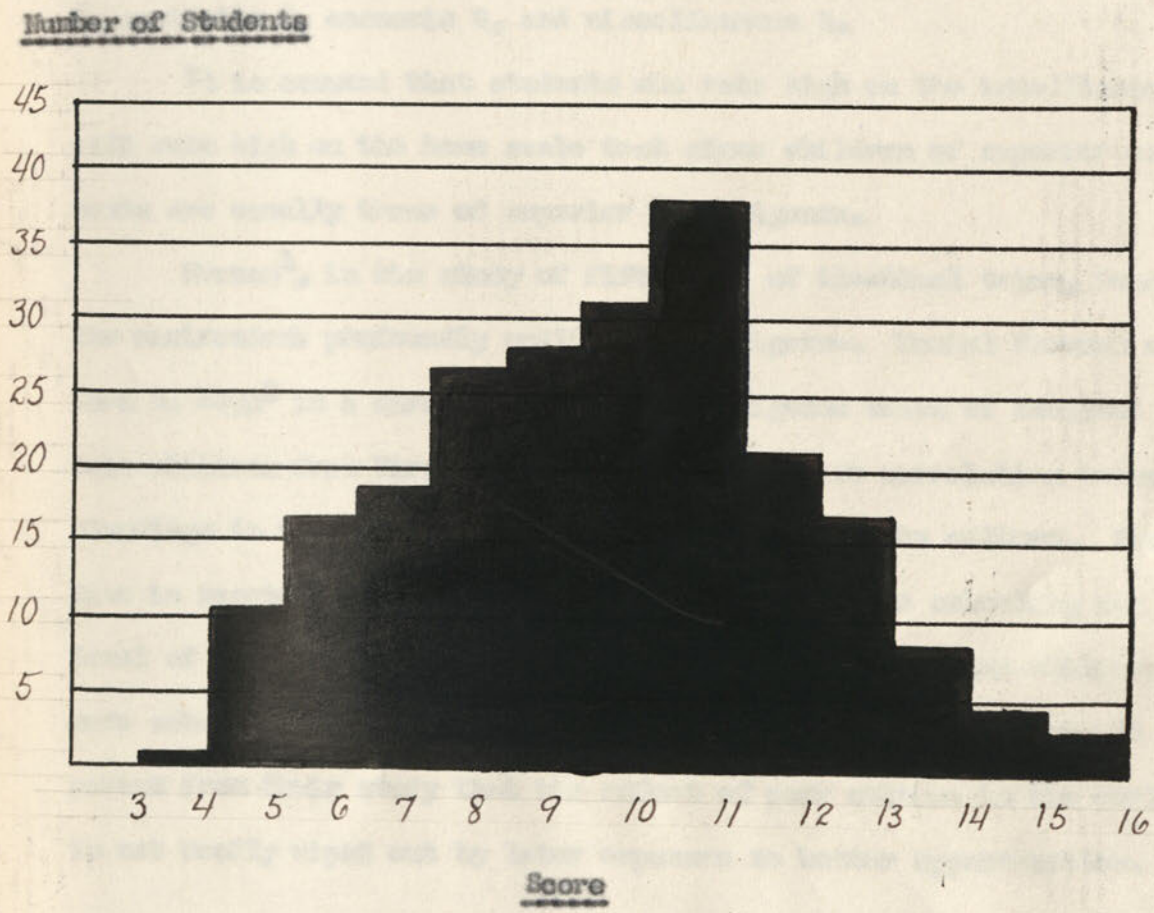


CHART 8

FREQUENCY DISTRIBUTION OF THE MISCELLANEOUS SCORES ON THE AMERICAN HOME SCALE TEST OF 224 FRESHMEN STUDENTS



abruptly both toward and away from the norm. The upper part of the distribution increases fairly close to what is called the normal distribution frequency. The lower part, however, has the appearance of being cut off abruptly. The distribution of the raw score in Chart 8 is fairly normal. The median of the total American Home Scale is 27, cultural 5, aesthetic 6, economic 8, and miscellaneous 9.

It is assumed that students who rate high on the intelligence test will rate high on the home scale test since children of superior environments are usually those of superior intelligence.

Newman[1], in his study of fifty pair of identical twins, found that the environment profoundly modifies intelligence. Mandel Sherman and Cora B. Keys[2] in a careful study of intelligence tests of isolated mountain children from Virginia have shown a definite correlation between standings in the test and exposure of the children to culture. Those who live in remote and inaccessible sections with little schooling and a low level of culture do distinctly less well in the tests than children with more schooling and in communities of higher culture. Moreover, it is apparent from their study that the effect of poor culture in the early years is not easily wiped out by later exposure to better opportunities.

RELATIONSHIP OF SOCIAL STATUS AND GENERAL INTELLIGENCE

It would be difficult to discuss an aspect of an individual as important as is intelligence without taking some account of his upbring-

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[1]Kimball Young, An Introductory Sociology, New York: American Book Company, 1934, pp. 89-108.

[2]Ibid., pp. 1-2.

ing and of his relations with others. Since an intellectual life must depend ultimately on some sensory experience, it is expected that the social status of an individual would have much to do with his intelligence.

Since differences in experience make for differences in intelligence, the nature or character of the individual's experience must also be taken into account in the testing of his intelligence.

Knowledge of the environment is acquired first through responses to features or elements which in themselves have significance, and, secondly, to responses to those features or elements which have gained significance from having occurred with the former as parts of the total situation — the so-called conditioned responses. The establishment of the conditioned responses to conditioning stimuli has been taken as marking the beginnings of intelligence. Knowledge from both of these sources makes for differences in the intelligence of individuals. In appraising intelligence one must, therefore, take into account both the character and perhaps the number of elements or properties of things which go to influence the individual. Again one must consider the number and kind of elements which have gained significance or have become of interest to the individual. The social status of an individual reflects practical needs, appetites and interests, then it follows that his intelligence is a part of these same things.

The relationship of the 224 Freshmen's scores on the Psychological Test and the American Home Scale is measured by the correlation method. The coefficient of correlation is a measure of the relationship existing between two sets of scores derived from measuring the same group of in-

dividuals twice. It is wholly a measure of group relationship. Due to the number of cases studied the individual's standing on the test is expressed in terms of the standard deviation of the group. This rating is called the T-score.

$$T = \frac{M - Mr}{\sigma}$$

T-scores are those scores which determine the numbers of deviations of an individual is away from the mean or the norm of a curve. T-scores were computed for the raw scores on both the Psychological Test and the American Home Scale. The formula used for deriving the coefficient of correlation in this study was the Pearson Product-Moment Method.

Due to the lack of accuracy in a random sample the reliability of each correlation was used. This reliability was the standard error of the coefficient of correlation which was obtained through the following formula:

$$P.E. = \frac{1 - r^2}{\sqrt{N}}$$

Relationship of Total Scores of American Home Scale and Total Scores of Psychological Test: The correlation as shown in the scatter diagram is a distribution of the total scores of the American Home Scale and the total scores on the Psychological Test. In this case the distribution of scores in the Psychological Test is represented vertically and the distribution of the scores on the American Home Scale is represented horizontally. All the cases which cluster about the diagonal line running from the lower left-hand corner are cases in which the two scores correspond.

It could be that those material elements which enabled the stu-

dents to do well in the American Home Scale also enable them to do well in the Psychological Test. In order to determine the amount of correlation between these two tests and at the same time be able to compare it with the amount of correlation between other tests the correlation is expressed in terms of single coefficient. The coefficient correlation has been calculated from Tables A - O.[1] The correlation for the total scores on the American Home Scale and the Psychological Test was $r = .02 \pm .192$. This is regarded as being "negligible" or "indifferent". There was no significant difference between the relationship of these scores.

Relationship of Total Scores of American Home Scale and Part Scores of Psychological Test: The correlation between the total Home Scale and the Linguistic scores was $r = .07 \pm .102$ and the correlation between the Scale and Question scores was $r = .10 \pm .180$. Since there was practically no correlation between the total scores of American Home Scale and the Psychological Test it is relatively true of the relationship between the total scores in the American Home Scale and part scores in the Psychological Test. The degree of correlation does not give the grounds to expect that a high score on one test is accompanied by a high score on the other. The largest distribution of the dots in Charts 2 and 3 is between one and two standard deviations above the norm.

Relationship of Part Scores of American Home Scale and Total Scores of Psychological Test: The third sorting was sections: 1. Cultural, 2. Economic, 3. Aesthetic, and 4. Miscellaneous. The correlation between

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[1] See Appendix B, p. 86.

CHART 1

SCATTER DIAGRAM SHOWING RELATIONSHIP BETWEEN TOTAL AMERICAN HOME SCALE AND TOTAL PSYCHOLOGICAL SCORES OF 224 FRESHMEN STUDENTS

Total American Home Scale

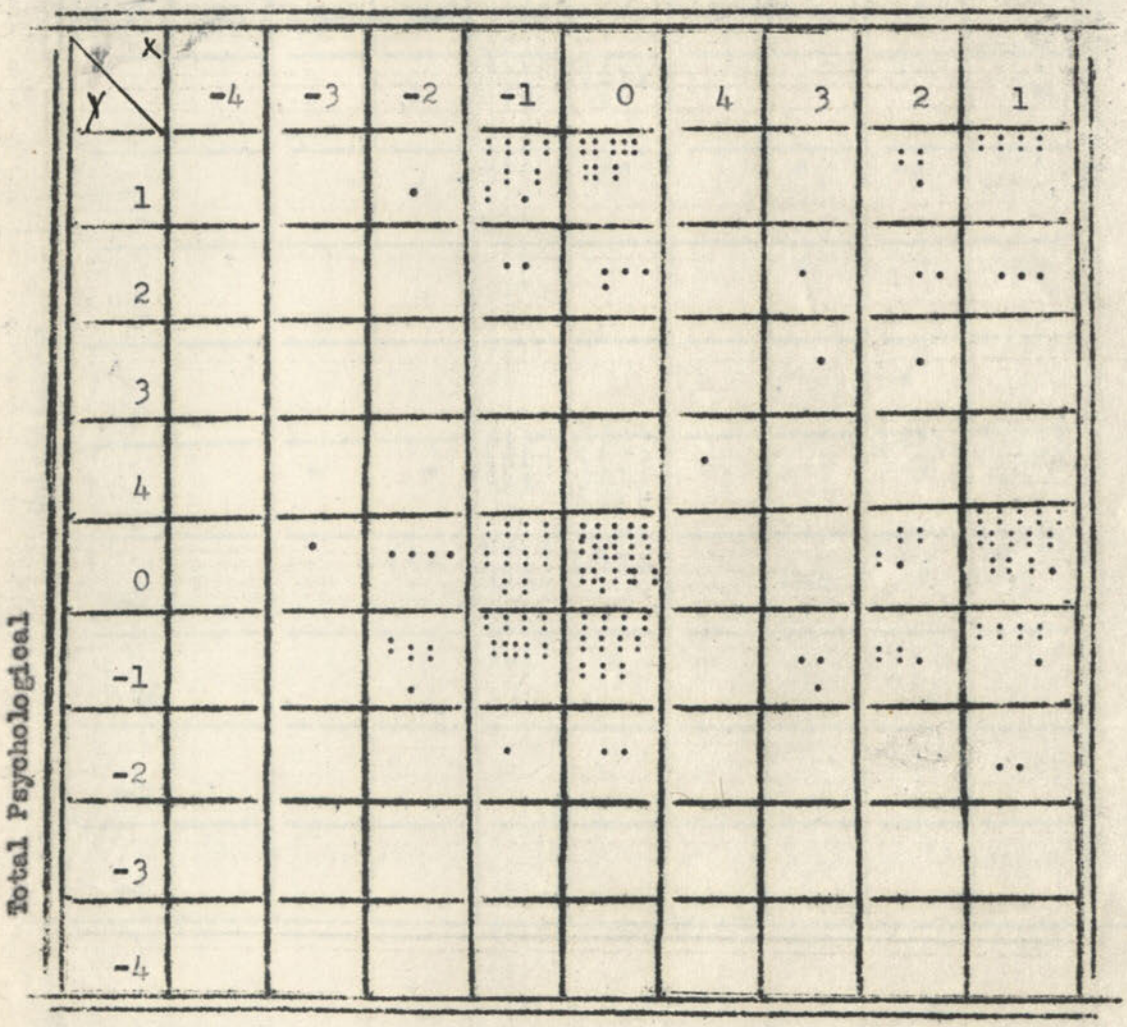


CHART 2

SCATTER DIAGRAM SHOWING THE RELATIONSHIP BETWEEN THE QUANTITATIVE AND TOTAL AMERICAN HOME SCALE SCORES OF 224 FRESHMEN STUDENTS

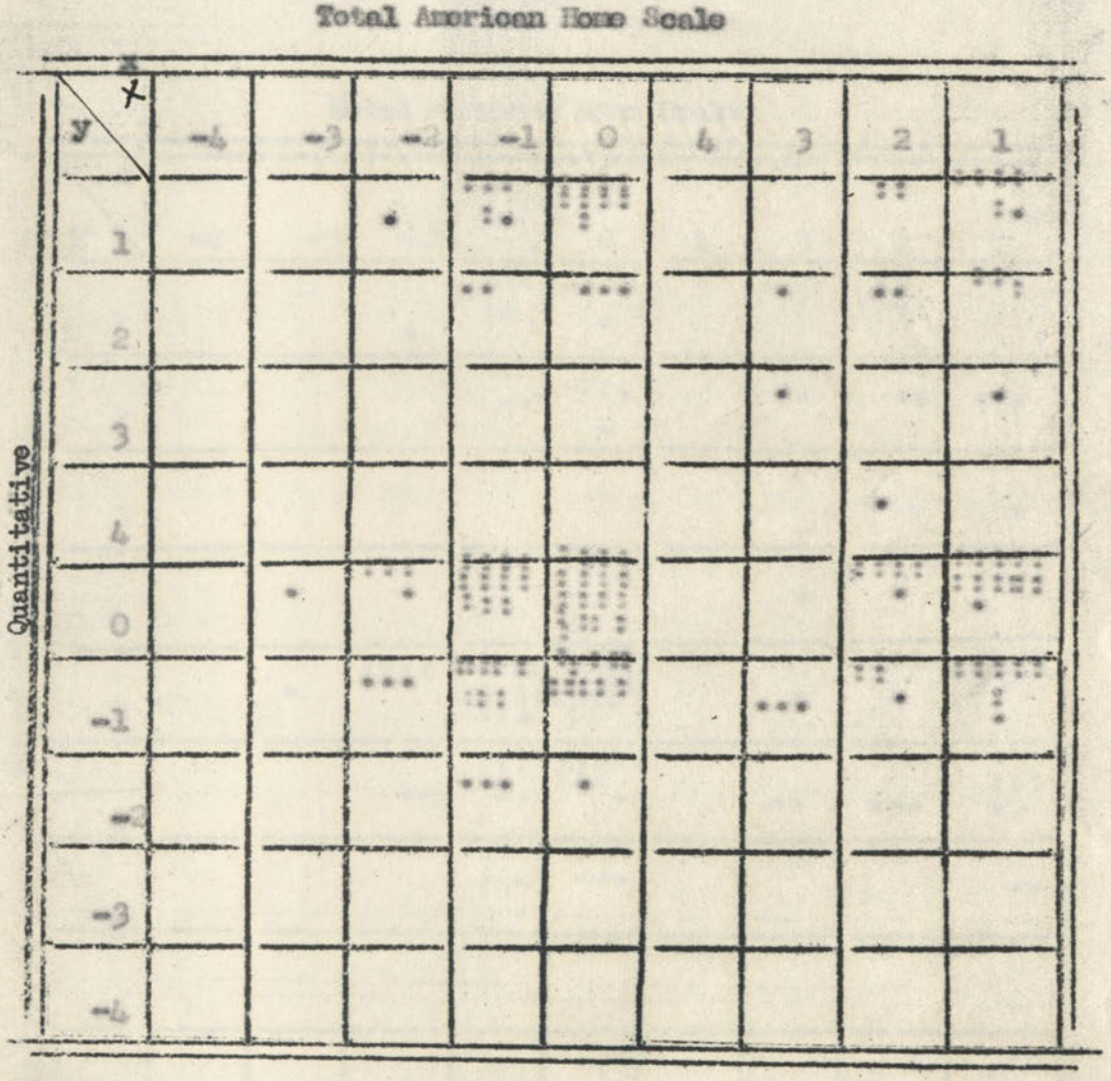
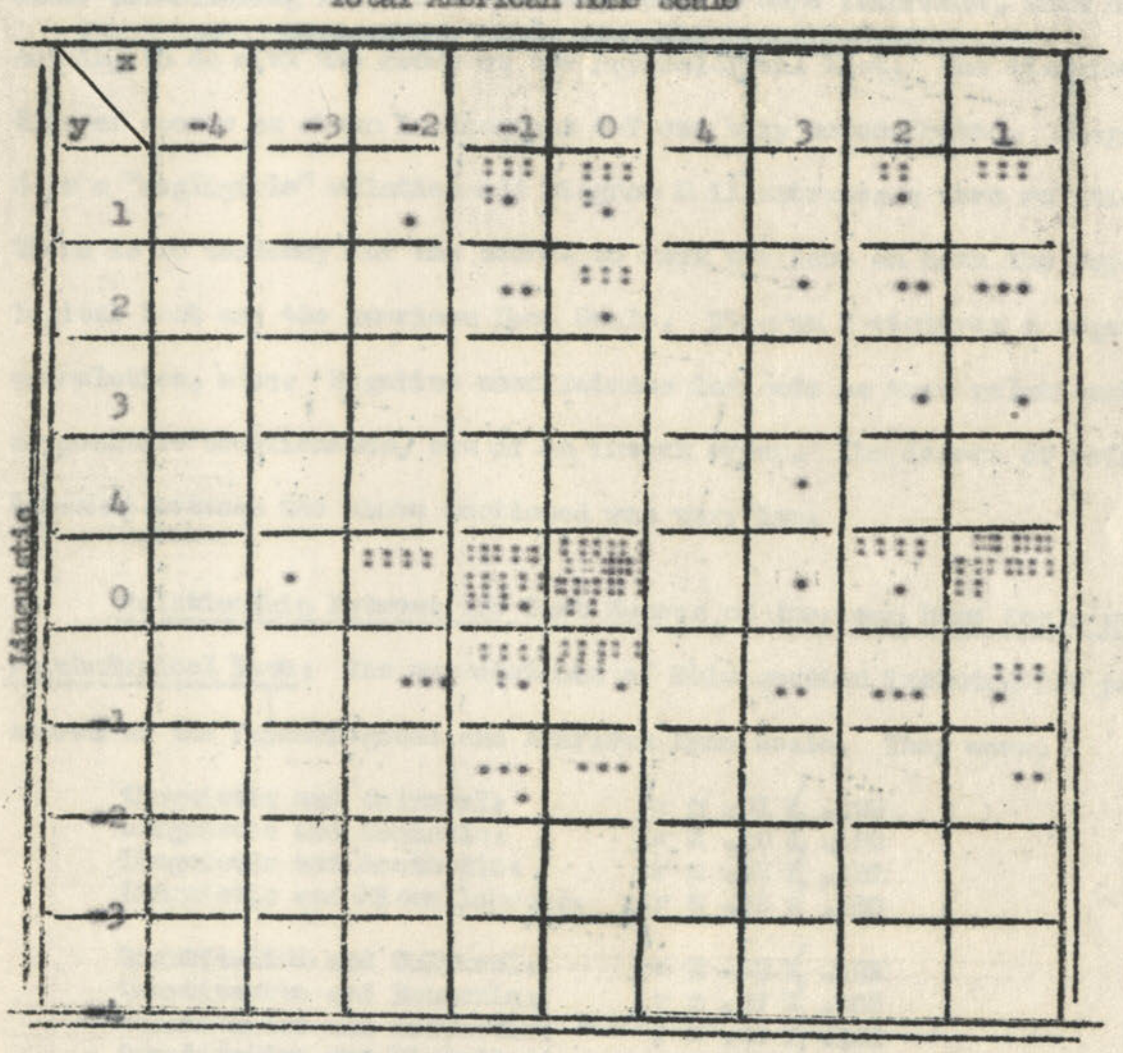


CHART 3

SCATTER DIAGRAM SHOWING THE RELATIONSHIP BETWEEN THE TOTAL AMERICAN HOME SCALE AND THE LINGUISTIC SCORES OF 224 FRESHMEN STUDENTS



these sections was r = -.03 ≮ .180, r = .04 ≮ .168, r = .10 ≮ .180, and r = .00. Regardless to the type of socio-economic status provided for the students this had no relationship with the scores made on the Psychological Test. Although the cultural background of the individual may have been enriched with many books, newspapers, magazines, and etc., and other contributing factors of the environment were favorable, this had nothing to do with the score on the Psychological Test. The distribution of scores as shown in diagrams 4-7 was very concentrated. Diagram 4 is a "negligible" relation and Diagram 5 illustrates a Zero relationship. There is no tendency for the scores to rank the same on both the Psychological Test and the American Home Scale. Diagram 7 pictures a negative correlation, also. Negative coefficients indicate as much relationship as positive coefficients, but of an invert order. The degree of relationship between the above mentioned was very low.

Relationship Between the Part Scores of American Home Scale and Psychological Test: The correlations of this section included the part scores of the Psychological and American Home Scale. They were:

Linguistic and Cultural:	r = .01 ≮ .198
Linguistic and Economic:	r = .10 ≮ .180
Linguistic and Aesthetic:	r = .02 ≮ .192
Linguistic and Miscellaneous:	r = .12 ≮ .192
Quantitative and Cultural:	r = .02 ≮ .192
Quantitative and Economic:	r = .07 ≮ .102
Quantitative and Aesthetic:	r = .02 ≮ .192
Quantitative and Miscellaneous:	r = .05 ≮ .150

The coefficient of correlation of the part scores on these tests are shown in Diagrams 8-15. The degree of relationship between each score was the same or almost the same as that of the total and part score of

CHART 4

SCATTER DIAGRAM SHOWING THE RELATIONSHIP BETWEEN CULTURAL AND TOTAL PSYCHOLOGICAL SCORES OF 224 FRESHMEN STUDENTS

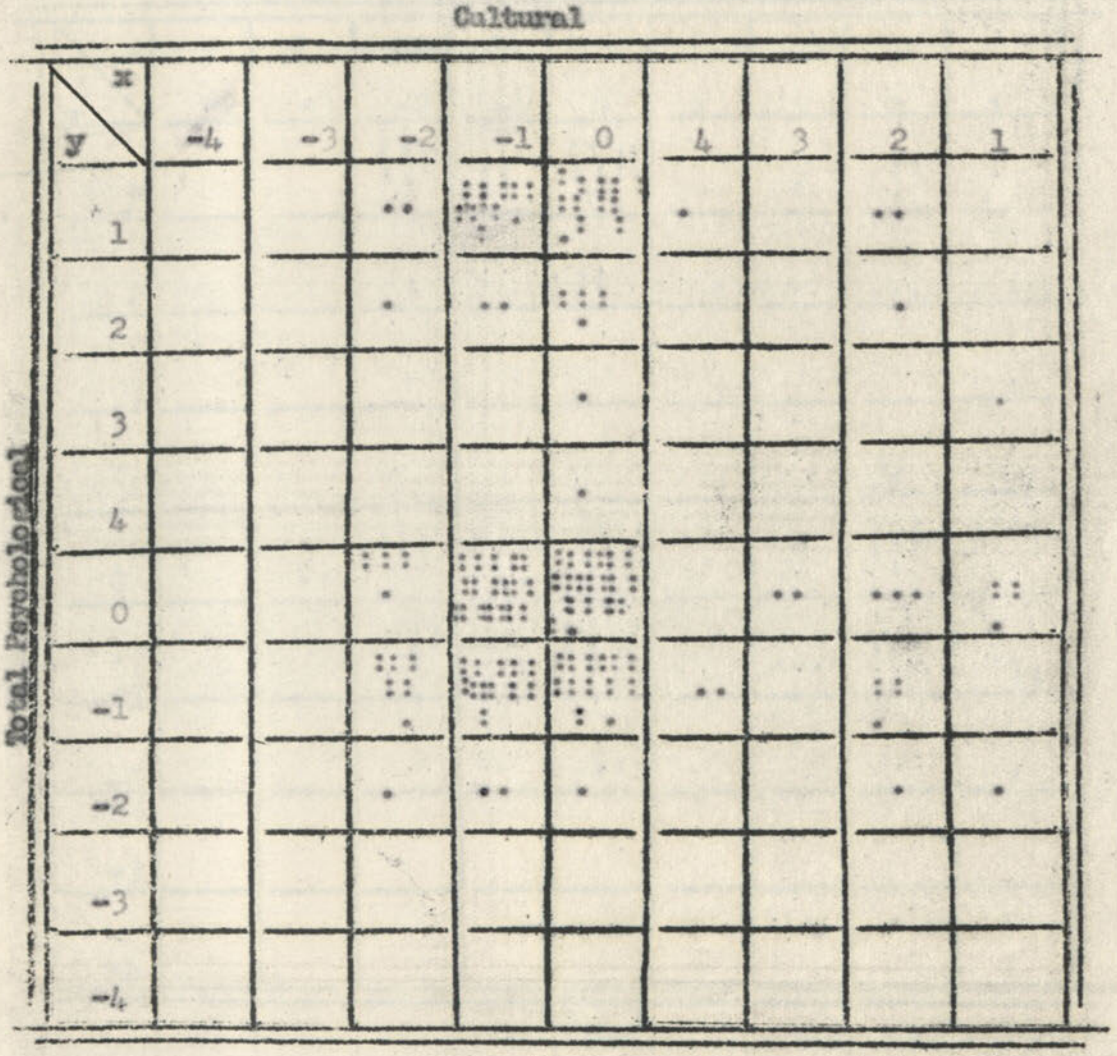


CHART 5

SCATTER DIAGRAM SHOWING THE RELATIONSHIP BETWEEN ECONOMIC AND TOTAL PSYCHOLOGICAL SCORES OF 224 FRESHMEN STUDENTS

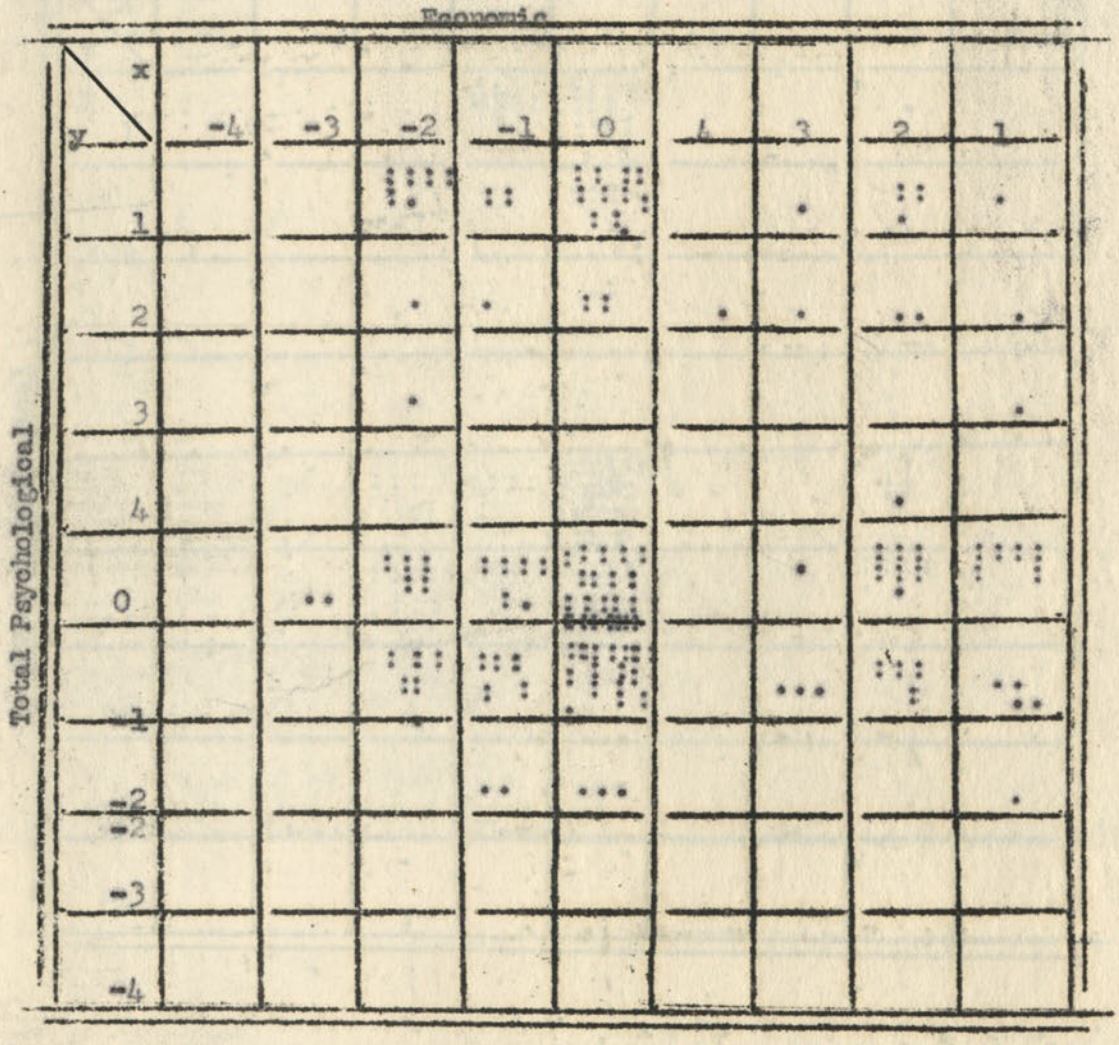


CHART 6

SCATTER DIAGRAM SHOWING THE RELATIONSHIP BETWEEN AESTHETIC AND TOTAL PSYCHOLOGICAL SCORES OF 224 FRESHMEN STUDENTS

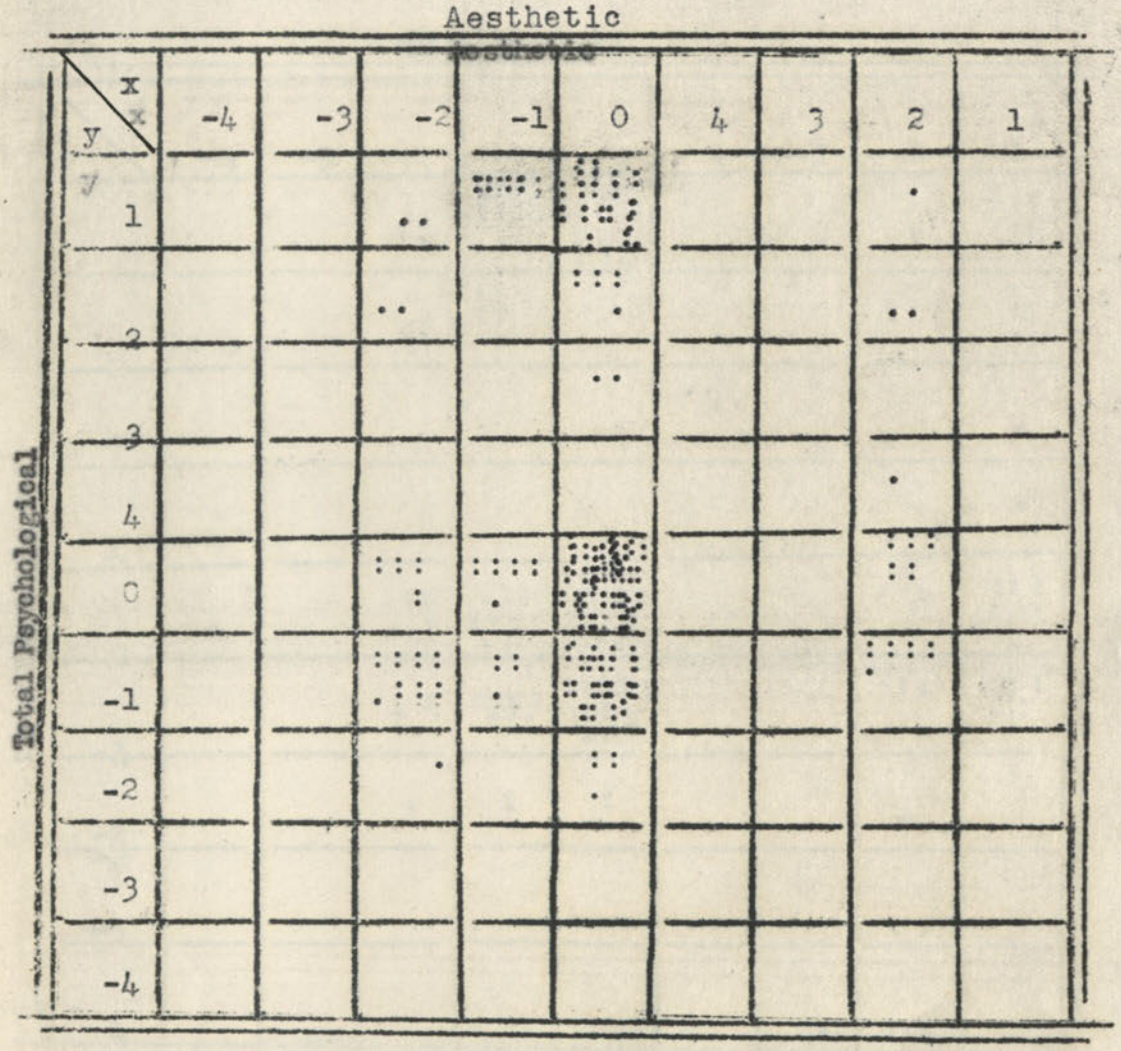


CHART 7

SCATTER DIAGRAM SHOWING RELATIONSHIP BETWEEN MISCELLANEOUS AND TOTAL PSYCHOLOGICAL SCORES OF 224 FRESHMEN STUDENTS

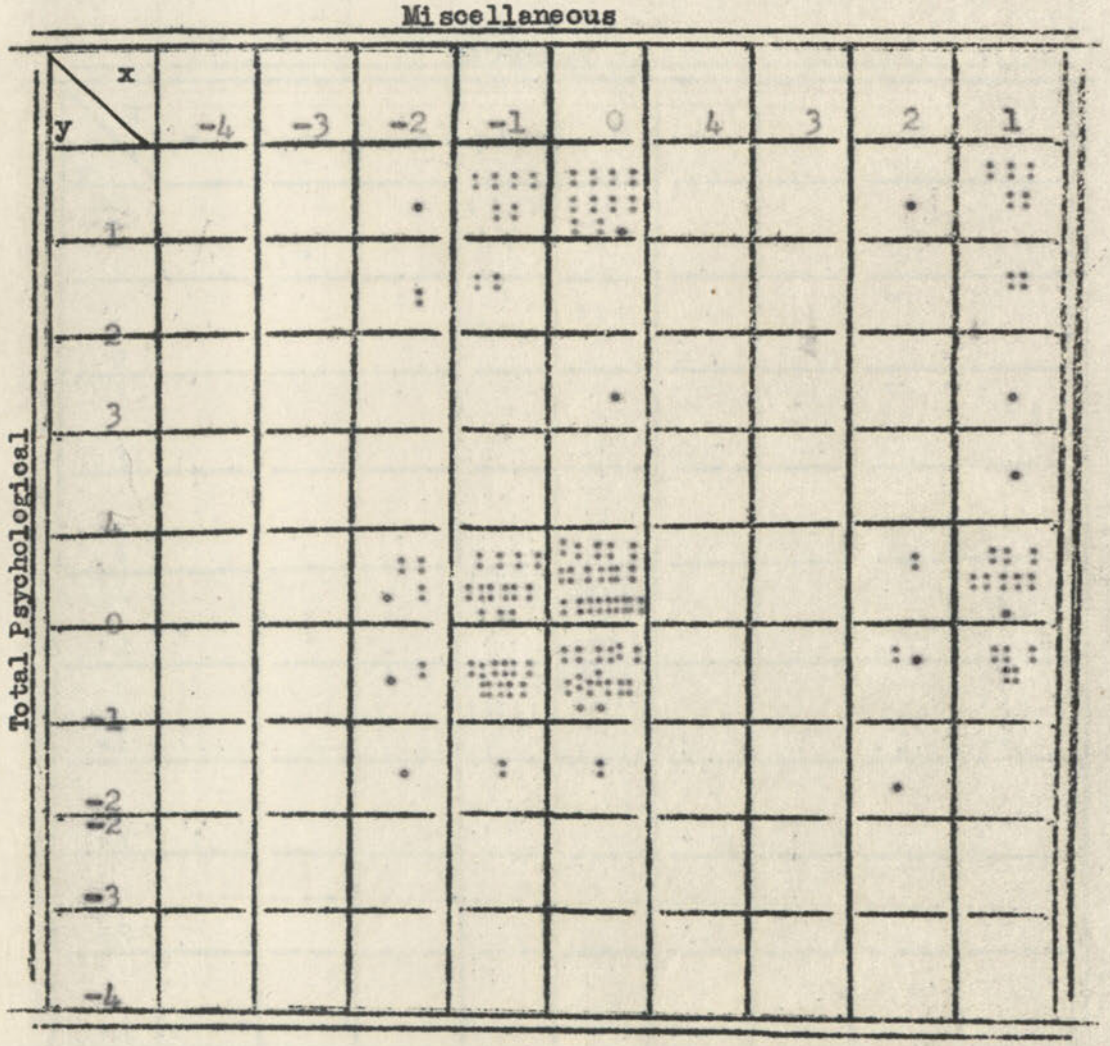


CHART 8

SCATTER DIAGRAM SHOWING RELATIONSHIP BETWEEN QUANTITATIVE AND CULTURAL SCORES OF 224 FRESHMEN STUDENTS

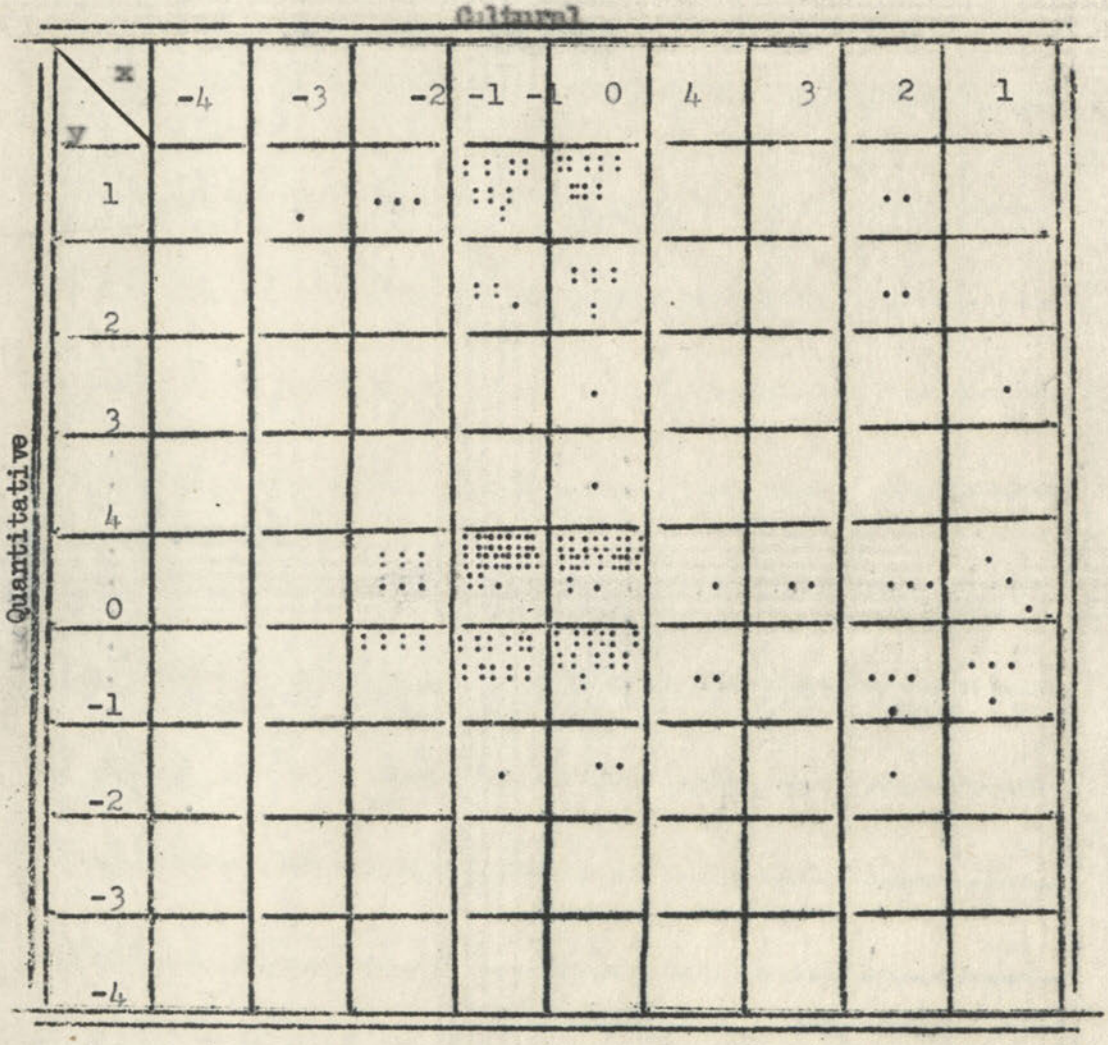


CHART 9

SCATTER DIAGRAM SHOWING RELATIONSHIP BETWEEN ECONOMIC AND QUANTITATIVE SCORES OF 224 FRESHMEN STUDENTS

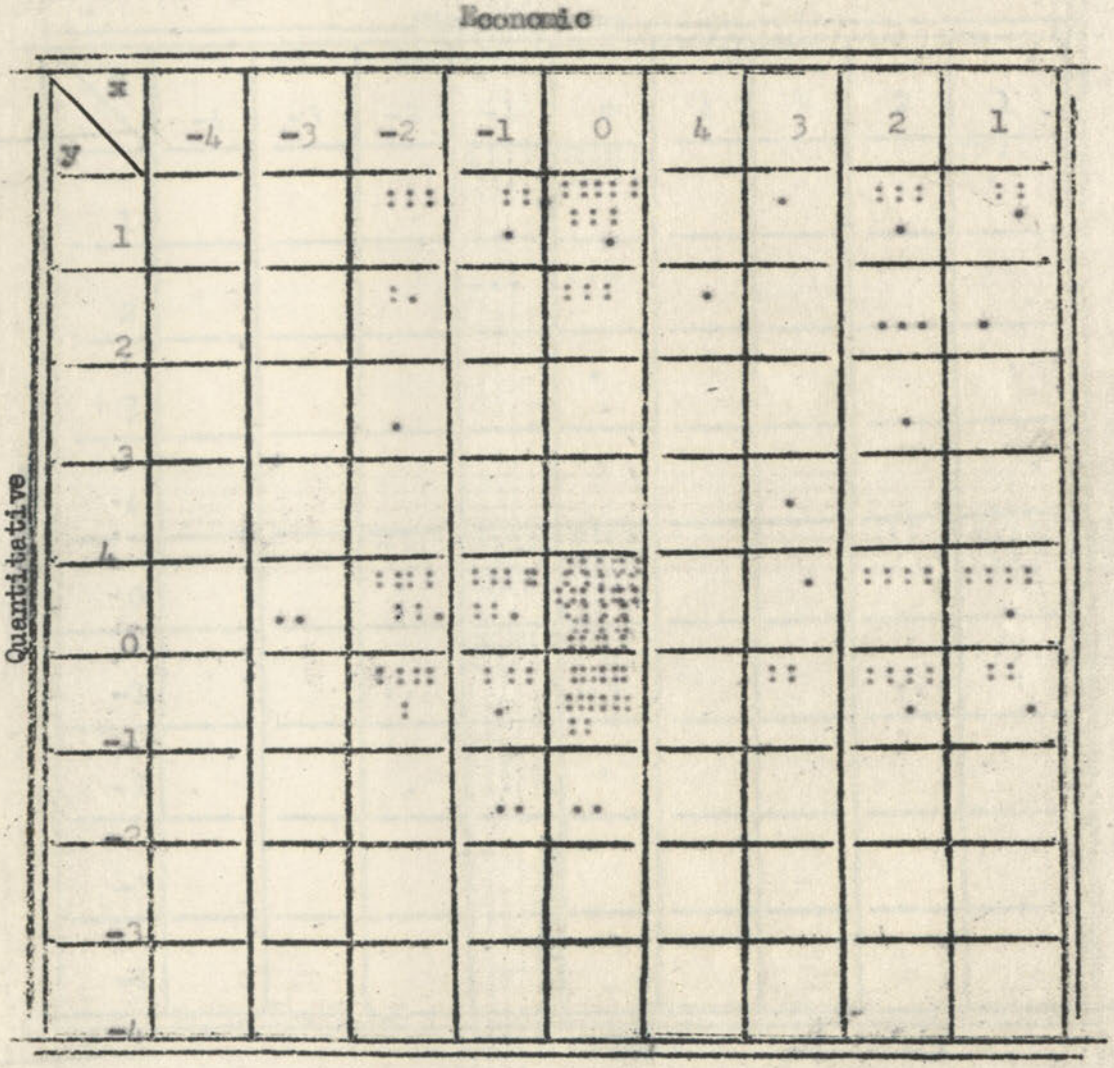


CHART 10

SCATTER DIAGRAM SHOWING THE RELATIONSHIP BETWEEN MISCELLANEOUS AND QUANTITATIVE SCORES OF 224 FRESHMEN STUDENTS

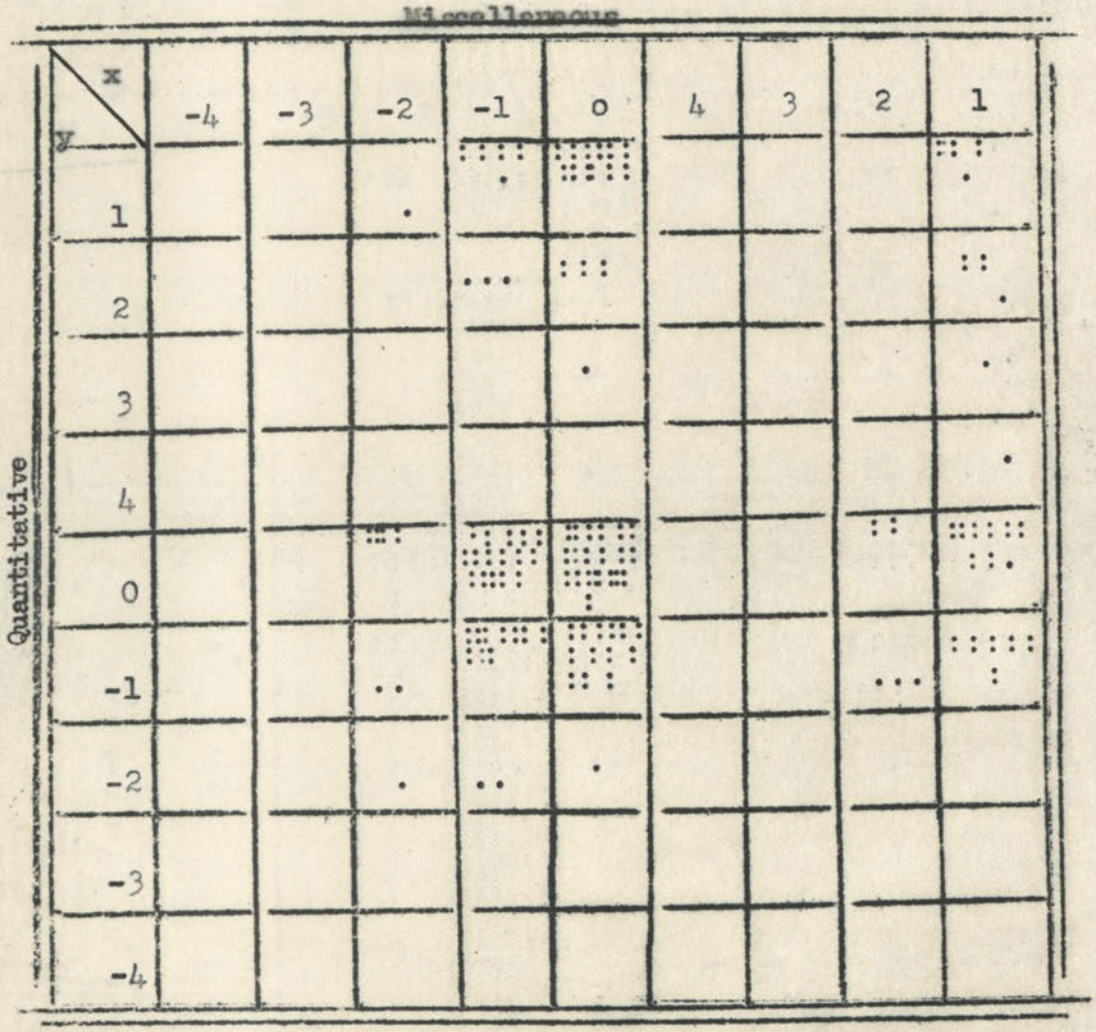


CHART 11

SCATTER DIAGRAM SHOWING RELATIONSHIP BETWEEN AESTHETIC AND QUANTITATIVE SCORES OF 224 FRESHMEN STUDENTS

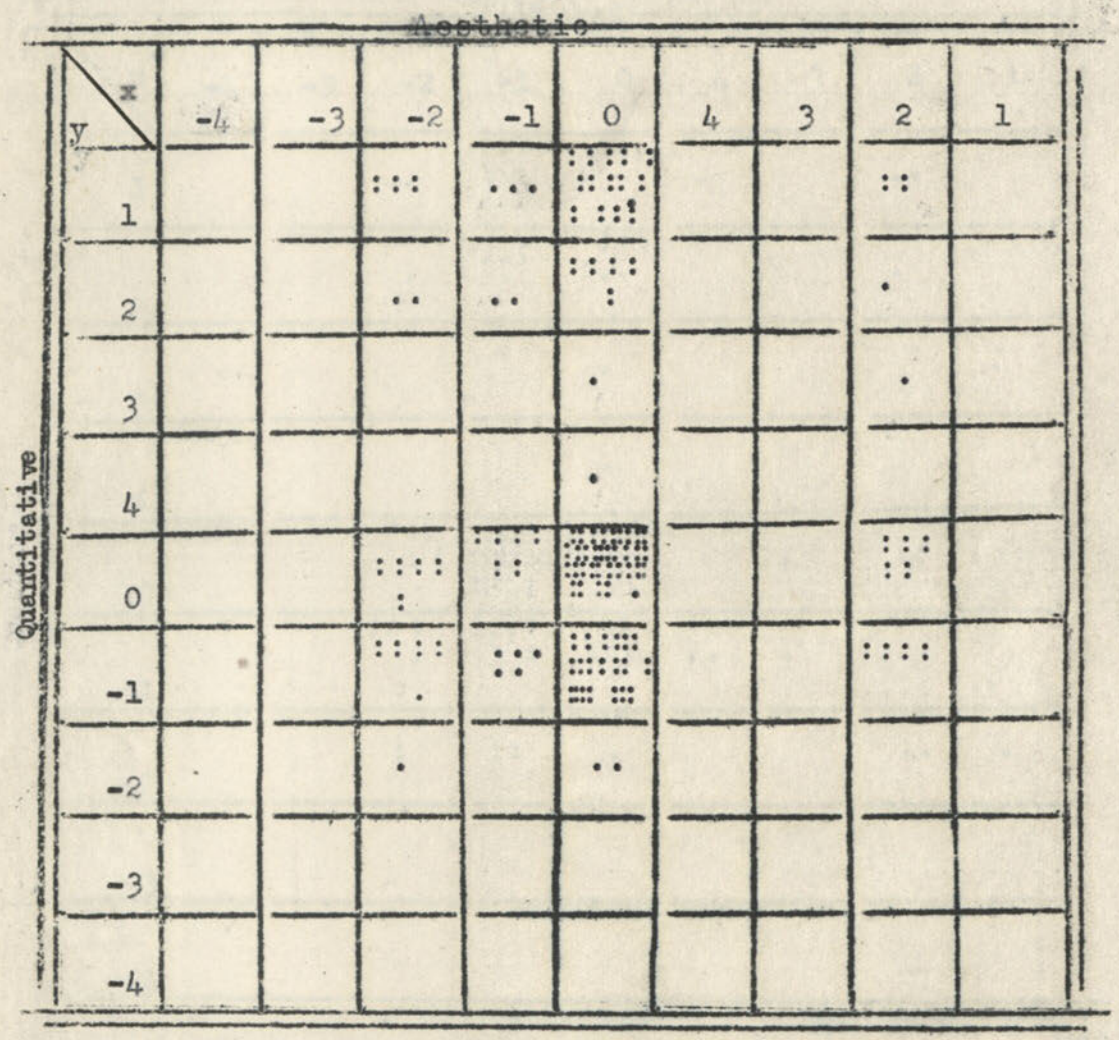


CHART 12

SCATTER DIAGRAM SHOWING RELATIONSHIP BETWEEN CULTURAL AND LINGUISTIC SCORES OF 224 FRESHMEN STUDENTS

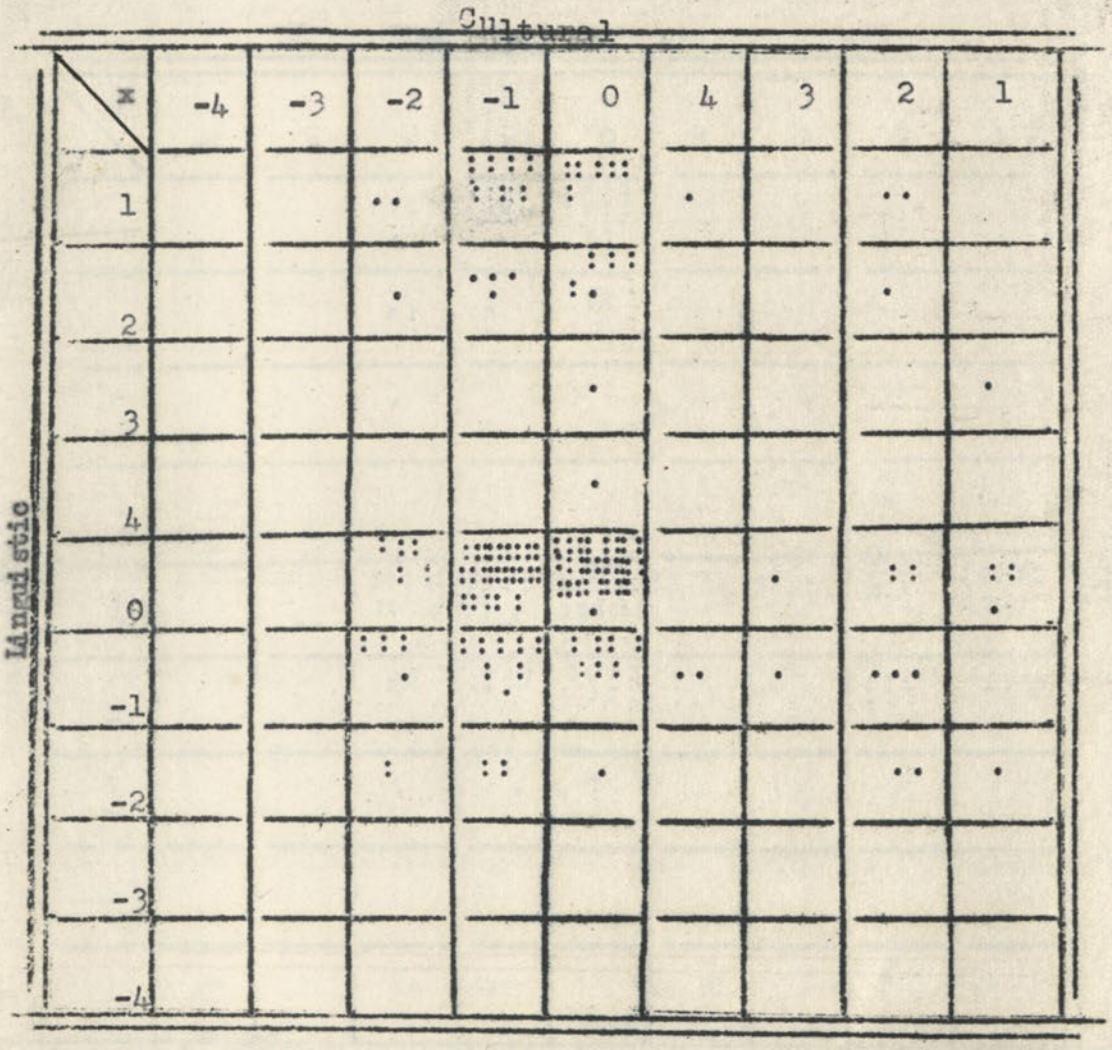


CHART 13

SCATTER DIAGRAM SHOWING RELATIONSHIP BETWEEN ECONOMIC AND LINGUISTIC SCORES OF 224 FRESHMEN STUDENTS

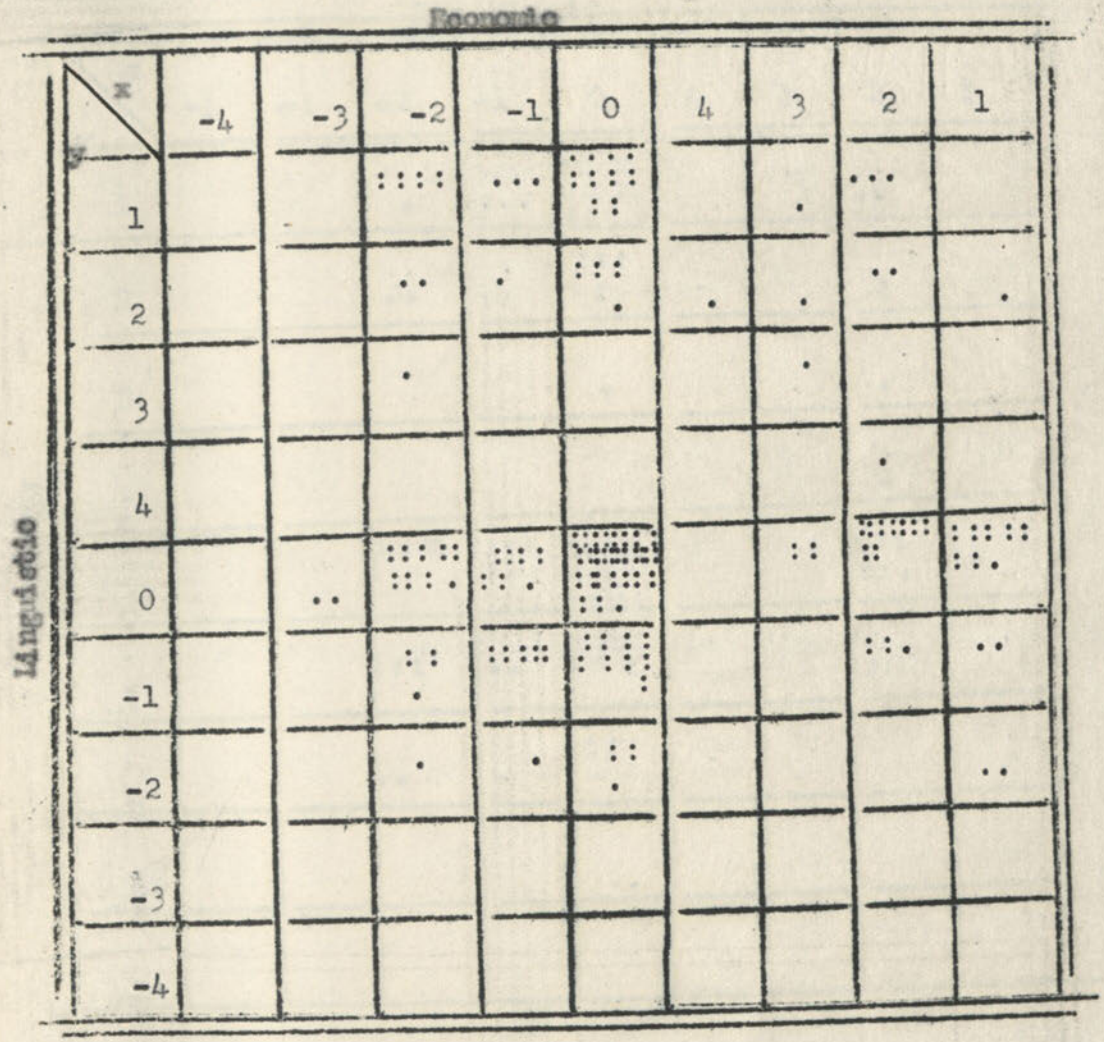


CHART 14

SCATTER DIAGRAM SHOWING RELATIONSHIP BETWEEN LINGUISTIC AND AESTHETIC SCORES OF 224 FRESHMEN STUDENTS

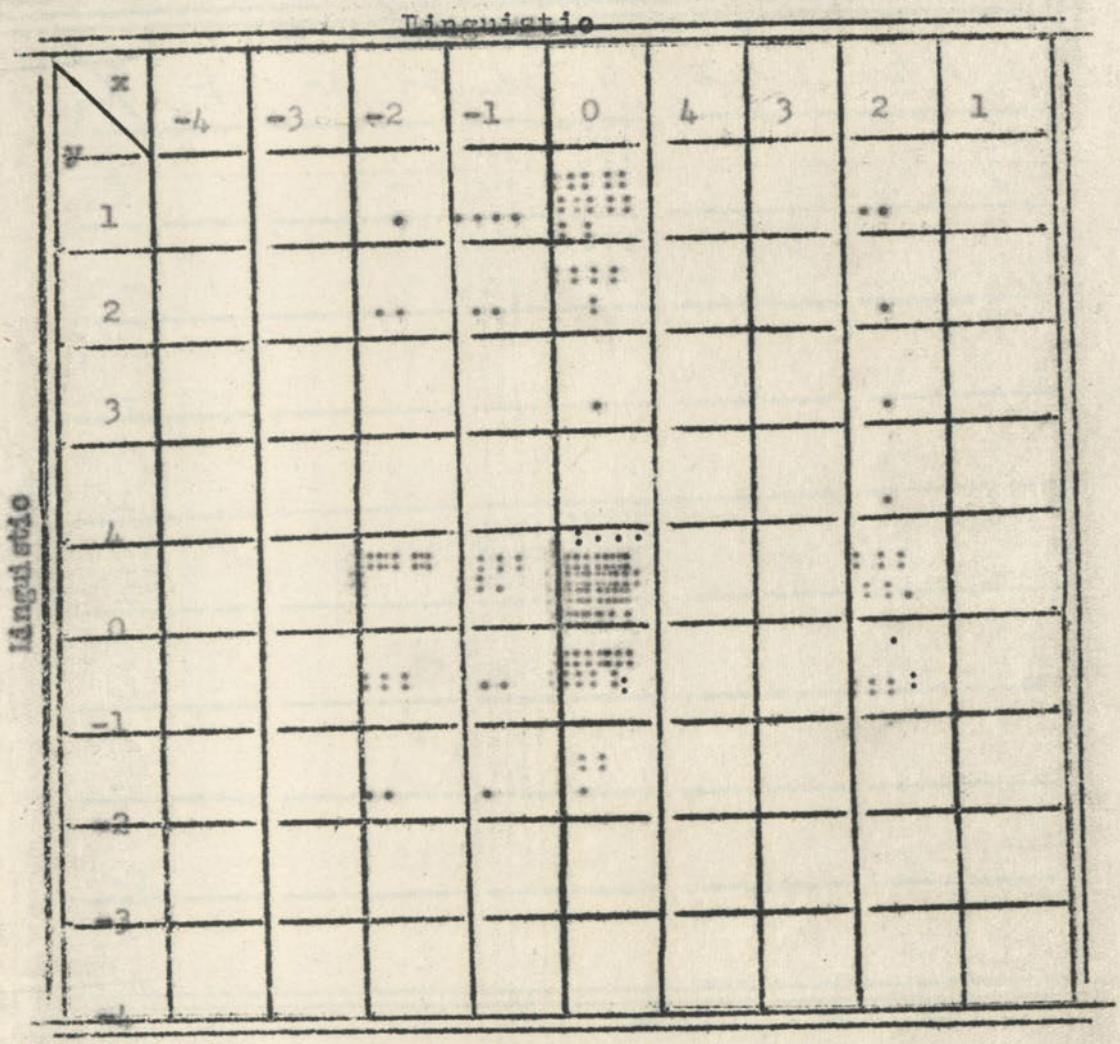
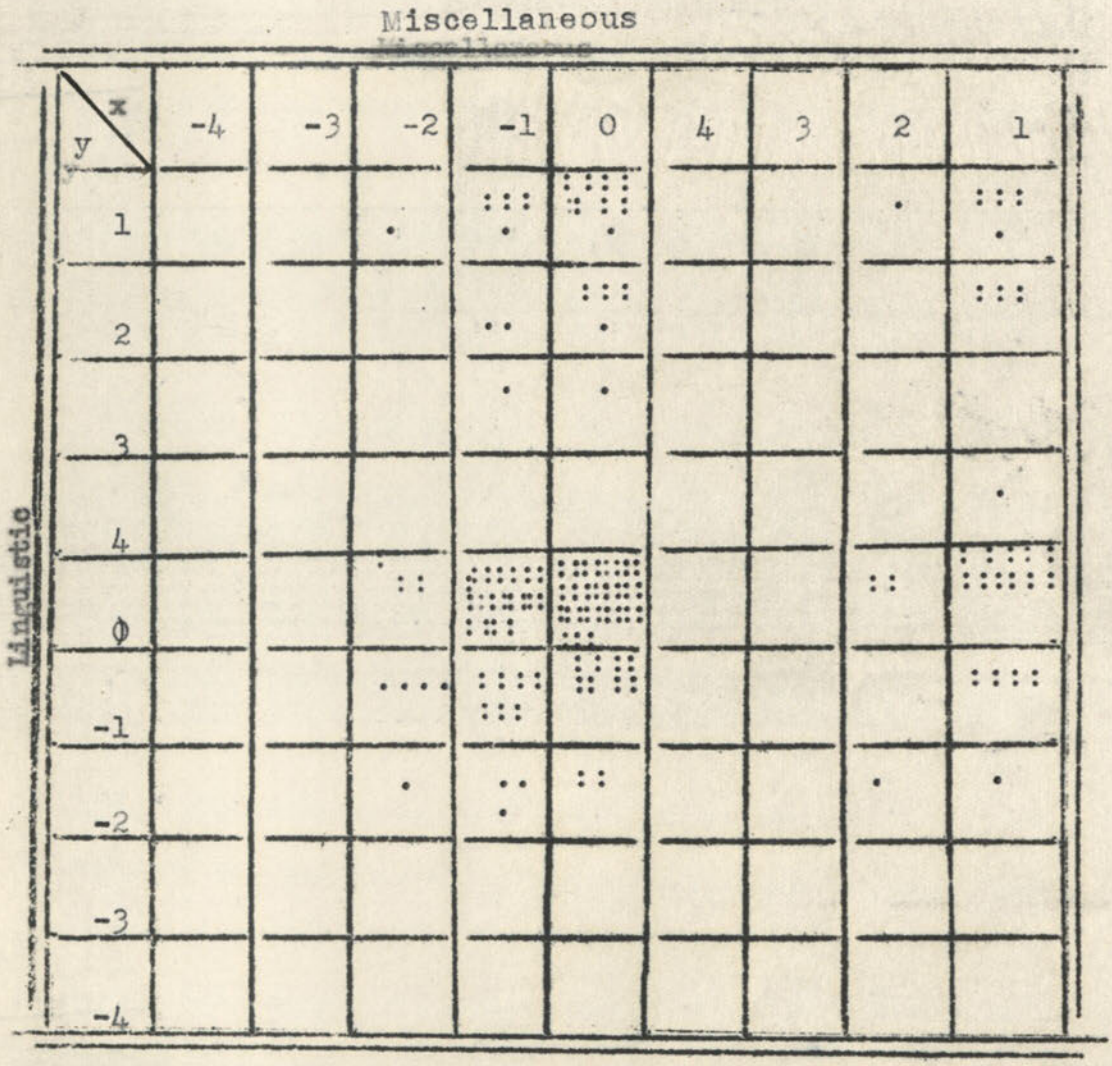


CHART 15

SCATTER DIAGRAM SHOWING RELATIONSHIP BETWEEN MISCELLANEOUS AND LINGUISTIC SCORES OF 224 FRESHMEN STUDENTS



previous Diagrams. In other words, the relationship showed only a small degree of association between the sections.

CHAPTER III

SUMMARY AND CONCLUSION

As a result of this study certain conclusions can be drawn. Since early theorists have advanced that the extent of general intelligence was dependent in part upon conditions or factors of the individual's socio-economic status, it was believed that a research problem involving the measurement of these two variables should be developed. A second theory was advanced that since people vary in their mental capacities the differences in abilities are due largely to the opportunities of education and training.

The problem of studying the relationship of General Intelligence and Socio-Economic Status of 224 Freshmen Students at Prairie View University, Prairie View, Texas, included describing the home conditions of the families. The Cultural, Economic, Aesthetic, and Miscellaneous factors were used to measure the socio-economic status of the homes of these students. It was found that there was no relationship between General Intelligence and Socio-Economic Status. This study upholds the theory that intelligence is fundamentally a measure of innate quality. Therefore, nature and nurture should no longer be set apart from each other for either one is conceivable only in terms of the other. That is to say that individuals who show changes of brightness or dullness have not actually changed in intelligence. What has happened is that the environment has become either more or less favorable for the showing off of that intelligence.

The following generalizations can be drawn concerning the relation-

ship of General Intelligence and Socio-Economic Status of 224 Freshmen Students:

1. The correlation between the total scores on the Psychological Test and the American Home Scale was r = .03 ± .180. There was no significant relationship shown between these two tests. In other words a high socio-economic status does not necessarily yield a high intellect.
2. The American Home Scale measured three or more different aspects of the home environment--such as the Cultural, Aesthetic, Economic, and Miscellaneous. The average correlation between these scores was very low. This indicates that there were many students who rated low in the possession of home qualities, making relatively high scores on the Psychological Test as there were those having high scores on both the scale and the test.
3. The correlation of the part scores on the American Home Scale and the Psychological Test showed a negligible relationship proving that the general intelligence of individuals is not affected by one's socio-economic status.

In conclusion, may we say that an individual is born with certain characteristics or abilities and the environment provides for the development of these abilities to their fullest extent.

APPENDIX A

TABLES

PER CENT DISTRIBUTION

and

"T" SCORES

TABLE A

OCCUPATIONAL DISTRIBUTION OF FATHERS OF 224 FRESHMEN STUDENTS

Occupational Class	Total Number of Cases	Per Cent of Total
Professional	17	07.5
Business Man	48	21.4
Skilled	57	25.4
Semi-Skilled	53	23.6
Unskilled	49	21.8
Total	224	100.0

TABLE B

FREQUENCY DISTRIBUTION OF THE EDUCATIONAL LEVEL OF PARENTS OF 224 FRESHMEN STUDENTS

School Level	Father	Per Cent	Mother	Per Cent	Total Number	Total Per Cent
Under High School	55	24.6	28	12.5	83	18.5
Enter High School	73	32.6	66	29.5	139	31.0
Finish High School	42	18.8	55	24.6	97	21.7
Enter College	25	11.1	42	18.8	67	14.9
Finish College	29	12.9	32	14.3	61	13.6
Total	224	100	223	100.0	447	100.0

TABLE C

PER CENT DISTRIBUTION OF MATERIAL ELEMENTS OF HOMES OF 224 FRESHMEN STUDENTS

Material Elements	Number of Cases	Per Cent
Fireplace	45	20.0
Typewriter	86	38.3
Telephone	97	43.3
Piano	125	55.8
Bathroom	-	-
Bathtub	162	72.3
Boat	8	03.5
Vacuum Cleaner	49	21.8
Central Heating	41	18.3
Washing Machine	88	39.2
Refrigerator	100	44.6
Automobile	120	53.5

TABLE D

FREQUENCY DISTRIBUTION OF THE PARTICIPATION IN ORGANIZATIONS BY PARENTS OF 224 FRESHMEN STUDENTS

Name of Organization	Number of Cases	Per Cent
Labor Union	54	24.1
Chamber of Commerce or Service Club	85	37.9
Character-Building Organization	155	69.1
Social or Fraternal Club	208	92.8
Professional or Scientific Society	36	16.0

TABLE E

PER CENT DISTRIBUTION OF NUMBER OF NEWSPAPERS SUBSCRIBED FOR IN THE HOMES OF 224 FRESHMEN STUDENTS

Number of Newspapers	Number of Subscribers	Per Cent
0	10	04.4
1	85	37.9
2	83	37.0
3	35	15.6
4	7	03.1
5	4	01.7
Total	224	100.0

TABLE F

PER CENT DISTRIBUTION OF THE NUMBER OF CHILDREN'S BOOKS FOUND IN THE HOMES OF 224 FRESHMEN STUDENTS

Number of Volumes	Number of Cases	Per Cent
0	10	04.4
1-10	66	29.4
11-25	105	46.8
26-75	31	13.8
76 and Over	12	05.3
Total	224	100.0

TABLE G

PER CENT DISTRIBUTION OF THE NUMBER OF ADULT BOOKS IN THE HOMES OF 224 FRESHMEN STUDENTS

Number of Volumes	Number of Cases	Per Cent
0	14	06.2
1-50	148	66.0
50-200	52	23.2
200-400	8	03.5
400 and Over	2	00.8
Total	224	100.0

TABLE H

PER CENT DISTRIBUTION OF THE TYPES OF MAGAZINES SUBSCRIBED FOR IN THE HOMES OF 224 FRESHMEN STUDENTS

Classification of Magazines	Number	Per Cent
Cultural	31	13.8
Detective	38	17.0
Fashion	97	43.3
Household	156	69.6
Love Story	119	53.1
Miscellaneous	160	71.4
News Magazines	133	59.3
Pictorial	60	26.7
Sports	9	04.0
Technical	19	08.4
Western	9	04.0

TABLE A

FREQUENCY DISTRIBUTION OF TOTAL SCORES ON THE PSYCHOLOGICAL TEST OF 224 FRESHMEN STUDENTS

"T" Scores	Number	Per Cent
-4		0.0
-3		0.0
-2	6	0.1
-1	66	15.0
0	94	55.3
1	44	84.6
2	11	96.0
3	2	99.2
4	1	99.8
Total	224	

TABLE B

FREQUENCY DISTRIBUTION OF THE LINGUISTIC SCORE ON THE PSYCHOLOGICAL TEST OF 224 FRESHMEN STUDENTS

"T" Scores	Number	Per Cent
-4		0.0
-3		0.0
-2	9	2.1
-1	43	31.4
0	122	54.6
1	32	84.5
2	15	96.2
3	2	99.3
4	1	99.9
Total	224	

TABLE C

FREQUENCY DISTRIBUTION OF QUANTITATIVE SCORES ON PSYCHOLOGICAL TEST OF 224 FRESHMEN STUDENTS

"T" Scores	Number	Per Cent
-4		.1
-3		.7
-2	4	3.8
-1	64	15.4
0	97	45.3
1	41	84.8
2	15	99.7
3	2	100.0
4	1	100.0
Total	224	

TABLE D

FREQUENCY DISTRIBUTION OF THE TOTAL SCORES ON AMERICAN HOME SCALE OF 224 FRESHMEN STUDENTS

"T" Scores	Number	Per Cent
-4		
-3	1	0.0
-2	12	2.0
-1	56	16.0
0	78	51.0
1	52	84.0
2	20	97.0
3	5	100.0
Total	224	

TABLE E

FREQUENCY DISTRIBUTION OF THE "T" SCORES ON THE ECONOMIC SCORES OF AMERICAN HOME SCALE OF 224 FRESHMEN STUDENTS

"T" Scores	Number	Per Cent
-4		
-3	2	0.0
-2	34	2.0
-1	28	16.0
0	108	50.0
1	18	84.0
2	31	97.0
3	7	100.0
4	1	100.0
Total	224	

TABLE F

FREQUENCY DISTRIBUTION OF THE AESTHETIC SCORES ON AMERICAN HOME SCALE OF 224 FRESHMEN STUDENTS

"T" Scores	Number	Per Cent
-4		
-3		
-2	26	1.0
-1	24	16.0
0	150	53.0
1		
2	24	97.0
3		
4		
Total	224	

TABLE G

PER CENT DISTRIBUTION OF THE MISCELLANEOUS SCORES ON AMERICAN HOME SCALE OF 224 FRESHMEN STUDENTS

"T" Scores	Number	Per Cent
-4		
-3		
-2	12	2.0
-1	64	16.0
0	98	50.0
1	44	84.0
2	6	98.0
3		
4		
Total	224	

APPENDIX B

CORRELATION CHARTS

CHART 1

CORRELATION OF THE NUMBER OF PERSONS AND NUMBER OF ROOMS IN THE FAMILIES OF 224 FRESHMEN STUDENTS

Number of Rooms	Number of Persons											
	2	3	4	5	6	7	8	9	10	11	12	Total
13						1	1					2
12						1						1
11					1			1				2
10					1	2						3
9					2	2	2			1	1	8
8			1		2	3	3	2	1			12
7	1		3	2	2	5	3	1				17
6				4	11	7	7		1		1	31
5			1	3	13	8	6	2	2			35
4			7	15	20	13	3	2	2		1	63
3		2	5	8	12	13	2	1				43
2	1				4	1	1					7
Total	2	2	17	32	68	56	28	9	6	1	3	224

CHART 2

CORRELATION OF TOTAL SCORES ON PSYCHOLOGICAL TEST AND AMERICAN HOME SCALE TEST OF 224 FRESHMEN STUDENTS

Standard Units Psychological Test	Standard Units American Home Scale Test Total Scores									
	-4	-3	-2	-1	0	4	3	2	1	Total
1			1	15	16			5	8	45
2				2	4		1	2	3	12
3								1	1	2
4							1			1
0		1	4	20	34			7	29	95
-1			7	18	22		3	5	9	64
-2				1	2				2	5
-3										
-4										
Total		1	12	56	78		5	20	52	224

CHART 3

CORRELATION OF QUANTITATIVE AND TOTAL AMERICAN HOME SCALE SCORE OF 224 FRESHMEN STUDENTS

Standard Units Quantitative Scores	Standard Units Total American Home Scale Scores									
	-4	-3	-2	-1	0	4	3	2	1	Total
1			2	9	18			4	11	44
2				2	3		1	2	6	14
3							1		1	2
4								1		1
0		1	7	24	34			9	23	98
-1			3	16	21		3	5	13	61
-2				3	1					4
-3										
-4										
Total		1	12	54	77	-	5	21	54	224

CHART 4

CORRELATION OF LINGUISTIC SCORES AND TOTAL AMERICAN HOME SCALE SCORES OF 224 FRESHMEN STUDENTS

Standard Units Linguistic Scores	Standard Units Total American Home Scale Scores									
	-4	-3	-2	-1	0	4	3	2	1	Total
1			1	9	9			5	6	30
2				2	7		1	2	3	15
3								1	1	2
4							1			1
0		1	8	29	42		1	9	34	124
-1			3	11	17		2	3	7	43
-2				4	3				2	9
-3										
-4										
Total		1	12	55	78		5	20	53	224

CHART 5

CORRELATION OF TOTAL PSYCHOLOGICAL SCORES AND CULTURAL SCORES OF 224 FRESHMEN STUDENTS

Standard Units Total Psychological Scores	Standard Units Cultural Scores									
	-4	-3	-2	-1	0	4	3	2	1	Total
1			2	19	19	1		2		43
2			1	2	7			1		11
3					1				1	2
4					1					1
0			7	38	39		2	3	5	94
-1			11	24	25	2		5		67
-2			1	2	1			1	1	6
-3										
-4										
Total			22	85	93	3	2	12	7	224

CHART 6

CORRELATION OF TOTAL PSYCHOLOGICAL SCORES AND ECONOMIC SCORES OF 224 FRESHMEN STUDENTS

Standard Units Total Psychological Scores	Standard Units Economic Scores									
	-4	-3	-2	-1	0	4	3	2	1	Total
1			11	4	21		1	5	1	43
2			1	1	4	1	1	2	1	11
3			1						1	2
4								1		1
0		2	10	11	46		1	13	12	95
-1			11	10	30		3	8	4	66
-2				2	3				1	6
-3										
-4										
Total		2	34	28	104	1	6	29	20	224

CHART 7

CORRELATION OF TOTAL PSYCHOLOGICAL SCORES AND AESTHETIC SCORES OF 224 FRESHMEN STUDENTS

Standard Units Psychological Scores	Standard Units Aesthetic Scores									Total
	-4	-3	-2	-1	0	4	3	2	1	
1			2	8	31			1		44
2			2		7			2		11
3					2					2
4										1
0			8	9	67			10		94
-1			15	5	37			9		66
-2			1		5					6
-3										
-4										
Total			28	22	151			23		224

CHART 8

CORRELATION OF TOTAL PSYCHOLOGICAL SCORES AND MISCELLANEOUS SCORES OF 224 FRESHMEN STUDENTS

Standard Units Total Psychological Scores	Standard Units Miscellaneous Scores									
	-4	-3	-2	-1	0	4	3	2	1	Total
1			1	12	21			1	10	45
2				2	4				4	10
3					1				1	2
4									1	1
0			7	26	42			2	17	94
-1			3	22	28			3	10	66
-2			1	2	2			1		6
-3										
-4										
Total			12	64	98			7	43	224

CHART 9

CORRELATION OF LINGUISTIC SCORES AND CULTURAL SCORES
OF 224 FRESHMEN STUDENTS

Standard Units Linguistic Scores	Standard Units Cultural Scores									
	-4	-3	-2	-1	0	4	3	2	1	Total
1			2	14	12	1		2		31
2			1	4	9			1		15
3					1				1	2
4					1					1
0			10	48	55		1	4	5	123
-1			7	15	14	2	1	3		42
-2			2	4	1			2	1	10
-3										
-4										
Total			22	85	93	3	2	12	7	224

CHART 10

CORRELATION OF LINGUISTIC SCORES AND ECONOMIC SCORES OF 224 FRESHMEN STUDENTS

Standard Units Linguistic Scores	Standard Units Economic Scores									
	-4	-3	-2	-1	0	4	3	2	1	Total
1			8	3	16		1	3		31
2			2	1	7	1	1	2	1	15
3			1				1			2
4								1		1
0		2	17	13	55		4	18	15	124
-1			5	10	18			7	2	42
-2			1	1	5				2	9
-3										
-4										
Total		2	34	28	101	1	7	31	20	224

CHART 11

CORRELATION OF LINGUISTIC SCORES AND AESTHETIC SCORES OF 224 FRESHMEN STUDENTS

Standard Units Linguistic Scores	Standard Units Aesthetic Scores									
	-4	-3	-2	-1	0	4	3	2	1	Total
1			1	4	24			2		31
2			2	2	10			1		15
3					1			1		2
4								1		1
0			17	13	83			11		124
-1			6	2	26			7		41
-2			2	1	7					10
-3										
-4										
Total			28	22	151			23		224

CHART 12

CORRELATION OF LINGUISTIC SCORES AND MISCELLANEOUS SCORES OF 224 FRESHMEN STUDENTS

Standard Units Linguistic Scores	Standard Units Miscellaneous Scores									
	-4	-3	-2	-1	0	4	3	2	1	Total
1			1	7	15			1	7	31
2				2	7				6	15
3				1	1					2
4									1	1
0			5	38	54			4	22	123
-1			4	14	16				8	42
-2			1	3	4			1	1	10
-3										
-4										
Total			11	65	97			6	45	224

CHART 13

CORRELATION OF QUANTITATIVE AND CULTURAL SCORES
OF 224 FRESHMEN STUDENTS

Standard Units Quantitative Scores	Standard Units Cultural Scores									Total
	-4	-3	-2	-1	0	4	3	2	1	
1		1	3	16	18			2		40
2				5	8			2		15
3					1				1	2
4					1					1
0			8	23	37	1	2	3	3	98
-1			8	22	24	2		4	4	64
-2				1	2			1		4
-3										
-4										
Total		1	20	87	91	3	2	12	8	224

CHART 14

CORRELATION OF QUANTITATIVE AND ECONOMIC SCORES
OF 224 FRESHMEN STUDENTS

Standard Units Quantitative Scores	Standard Units Economic Scores									Total
	-4	-3	-2	-1	0	4	3	2	1	
1			6	5	17		1	7	5	41
2			3		6	1		3	1	14
3			1					1		2
4							1			1
0		2	13	19	51		1	4	9	99
-1			10	7	28		4	9	5	63
-2				1	2					4
-3										
-4										
Total		2	33	29	104	1	7	28	20	224

CHART 15

CORRELATION OF QUANTITATIVE AND AESTHETIC SCORES
OF 224 FRESHMEN STUDENTS

Standard Units Quantitative Scores	Standard Units Aesthetic Scores									
	-4	-3	-2	-1	0	4	3	2	1	Total
1			6	3	29			4		42
2			2	2	10			1		15
3					1			1		2
4					1					1
0			10	12	67			10		99
-1			9	5	40			8		62
-2			1		2					3
-3										
-4										
Total			28	22	150			24		224

CHART 16

CORRELATION OF QUANTITATIVE AND MISCELLANEOUS SCORES
OF 224 FRESHMEN STUDENTS

Standard Units Quantitative Scores	Standard Units Miscellaneous Scores									
	-4	-3	-2	-1	0	4	3	2	1	Total
1			1	9	24				7	41
2				3	6				5	14
3					1				1	2
4									1	1
0			8	30	40			4	17	99
-1			2	20	26			3	12	63
-2			1	2	1					4
-3										
-4										
Total			12	64	98			7	43	224

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